EXHIBIT T

INTERNAL PROCEDURAL MEMORANDUM NO. 12-201

INTERNAL PROCEDURAL MEMORANDUM NO. 12-201

DATE: SEPTEMBER 29, 1999

SUPERCEDES: IPM 12-201 Dated December 2, 1986

FILE NUMBER: h:\ipms\12-201 Emergency Proc.doc

SUBJECT: Emergency Procurement

REFERENCE: Fairfax County Purchasing Resolution, Article 1, Section 6, Paragraph f; and Article 2, Section 2, Paragraph d

POLICY: An emergency is deemed to exist when:

1) a breakdown in machinery and/or threatened termination of essential services or a dangerous condition develops, or when any unforeseen circumstances arise causing curtailment or diminution of essential service, and/or
2) procurement of goods, services, or construction are required to address computers, software programs, databases, networks, information systems, firmware, or any other devices which are not compliant with the "Year 2000" date change. This is effective through January 1, 2001.

Emergency procurement may justify immediate contract award without competitive sealed bidding or competitive negotiation. This presumes that normal supply channels are unable to satisfy the demand with alternative or replacement equipment or service. The ultimate test is the need for expedited action in the public interest and *not a self-service agency action.* Failure to use reasonable diligence and foresight in anticipating requirements is not a valid reason for continuous use of these emergency procedures and agency/department heads are equally responsible to preclude this circumstance.

A notice of such emergency procurement shall be posted within the Department of Purchasing and Supply Management, Public Information Area, Suite 427, on the day the County awards or announces its decision to award the contract, whichever comes first.

PROCEDURES:

I. ***Emergency Occurring During Regular Business Hours:*** The requesting agency shall immediately notify the County Purchasing Agent or designee (typically the buyer who handles the commodity/service area required) of the emergency condition. In reviewing the emergency request, the Purchasing Agent or cognizant buyer shall:

1) Determine the reason for the emergency condition.
2) Identify what items/services are required.
3) Determine if the requirement is available from supply channels or can be met from an existing contract.
4) Determine the feasibility of acquiring competition.
5) If competitive quotes cannot be obtained, note the reason(s) on the *Report of Emergency Purchase*.
6) Exercise judgement and obtain supervisory approval.
7) Make the purchase or authorize the agency to do so.
8) Expedited receiving and inspection operations will apply.

If a contract is not available, the buyer (or requesting agency) should, whenever possible, obtain telephone quotes from reliable sources, preferably three. This information shall be documented on the *Report of Emergency Purchase* to include but not be limited to: firm's name, location, person providing the quote, purchase order number and relevant pricing and delivery information.

If the emergency is based on a Y2K-related situation, the buyer shall note such condition in the space provided on the *Report of Emergency Purchase.*

An emergency procurement can be approved by the DPSM Director, Deputy Director, or a Purchasing Supervisor. Such approval shall always be documented on the *Report of Emergency Purchase* form.

II. ***Emergency Occurring During Other Than Regular Business Hours:*** The requesting agency may directly purchase the required supplies and/or services during other than regular County business hours. The agency shall:

1. Whenever practical, secure supplies/services from sources under an existing contract(s), or
2. Whenever practical, secure competitive quotes (oral or written), preferably three, and place the order with the lowest responsive and responsible bidder.

3. In all cases, not later than the next regular County business day, the agency shall:
    a) enter a purchase requisition into CASPS;
    b) submit to the County Purchasing Agent a memorandum noting the purchase requisition number, a tabulation of the bids received (if any), a copy of the delivery record, and a brief explanation of the circumstances of the emergency.
    c) Expedited receiving and inspection operations will apply.

III. ***After the Emergency Procurement Has Been Authorized***

The following steps will be taken once the emergency has been approved (Item # I) or DPSM receives notification from the agency (#II):

1. The buyer provides the completed *Report of Emergency Purchase* to the DPSM Public Information Clerk (PIC) on the day the County awards or announces its decision to award the contract, whichever occurs first.
2. The PIC will post the *Report of Emergency Purchase* (noting the *Posting Date and Removal Date)* in the designated public area. This public notice shall remain posted for ten (10) days.
3. The PIC will enter the relevant information into the DPSM "Emergency Procurement" database for tracking and review purposes (noting date entered and initial).
4. The PIC shall review all posted notices at the end of the month in order to remove those notices exceeding 10 days.
5. The PIC forwards original notice(s) to the Director's Secretary for filing. Such records shall be available for public inspection during regular County business hours.

The Deputy Director or designee shall review all emergency purchases on a monthly basis to ensure compliance to these procedures and to determine if arrangements can be made to preclude the recurrence of the emergency condition.

RESPONSIBILITIES: All Buying Staff
Director
Deputy Director
Chief of Administration/MAIII
Public Information Clerk
Purchasing Supervisors
Secretaries I and III

APPROVED BY: /S/ APPROVED 9/29/99
Armand E. Malo, CPPO, Director
Department of Purchasing and
Supply Management

PIC USE:

POSTING DATE: _____ **REMOVAL DATE**: _____

INITIALS: _____
Date Entered: _____

DEPARTMENT OF PURCHASING & SUPPLY MANAGEMENT
REPORT OF EMERGENCY PURCHASE

DATE:_____

SUBJECT: EXPLANATION OF EMERGENCY PURCHASE

Agency: _____ Agency Contact: _____

Commodity or Service: _____ Is Item/Service on Contract (✓): Yes_____ No____

Requisition No: _____ Purchase Order No: _____

Emergency Y2K Related (✓): Yes____ No____

GIVE A BRIEF EXPLANATION OF CIRCUMSTANCES SURROUNDING EMERGENCY COMPETITION

VENDOR	VENDOR CONTACT	PRICE	DELIVERY	TERMS	F.O.B.

Prepared by: _____
Contract Administrator

Approved by: _____
(REV. 9/99)

EXHIBIT U

CONTRACT REQUIREMENTS AND APPROVAL LEVELS

FAIRFAX COUNTY
CONTRACT REQUIREMENTS AND APPROVAL LEVELS
JULY 1, 2007
(Matrix #1)

AMOUNT OF CONTRACT	COMPETITIVE REQUIREMENTS	APPROVAL AUTHORITY	PURCHASE ORDER APPROVAL
Procurement of Goods and Non-Professional Services			
Less Than $5,000	None, But Recommended see PM 12-09	Department Director	CASPS Dept. Approver
$5,000 - $10,000	Solicit at Least Three Written or Oral Quotes see PM 12-08	Department Director	CASPS Dept. Approver
$10,001 - $50,000	Informal Written Solicitation (Solicit At Least Four Written Competitive Bids)/ *DPSM Obtains* / see PM 12-07* and PM 12-15 (GSA Schedule 70)	DPSM Supervisor	DPSM Buyer
$50,000 and Over	Formal Written Solicitation (Competitive Sealed Bid or Competitive Negotiation)/ *DPSM Obtains*	Purchasing Agent	DPSM Supervisor
Procurement of Professional Services			
Less Than $5,000	None, But Recommended see PM 12-09	Purchasing Agent or Delegated Agency	CASPS Dept. Approver
$5,000 - $10,000	Solicit at Least Three Written or Oral Proposals / see PM 12-08	Department Director	CASPS Dept. Approver
$10,001 - $30,000	Informal Written Solicitation (Solicit At Least Four Written Competitive Proposals)/ see PM 12-07	Purchasing Agent	DPSM Buyer
$30,001 - $100,000	Formal Written Solicitation (Competitive Negotiation)/ *DPSM Obtains*	Purchasing Agent	DPSM Buyer or Supervisor
Over $100,000	Formal Written Solicitation (Competitive Negotiation)/ *DPSM Obtains*	• Purchasing Agent • Board of Supervisors (information item)	Purchasing Agent

* Departments with approved eVA procedures may obtain competition using the quick quote process.

AMOUNT OF CONTRACT	COMPETITIVE REQUIREMENTS	APPROVAL AUTHORITY	PURCHASE ORDER APPROVAL
Procurement of Consultant Services			
Less Than $5,000	None, But Recommended see PM 12-09	Purchasing Agent or Delegated Agency	CASPS Dept. Approver
$5,000 - $10,000	Solicit at Least Three Written or Oral Quotes see PM 12-08	Department Director	CASPS Dept. Approver
$10,001 - $50,000	Informal Written Solicitation (Solicit At Least Four Written Competitive Bids) see PM 12-07	Purchasing Agent	DPSM Buyer
$50,000 - $100,000	Formal Written Solicitation (Competitive Negotiation)/ *DPSM Obtains*	Purchasing Agent	DPSM Supervisor
Over $100,000	Formal Written Solicitation (Competitive Negotiation)/ *DPSM Obtains*	• Purchasing Agent • Board of Supervisors (information item)	Purchasing Agent

AMOUNT OF CONTRACT	COMPETITIVE REQUIREMENTS	APPROVAL AUTHORITY	PURCHASE ORDER APPROVAL
Procurement of Architectural/Engineering Services for *Capital Construction Departments*			
Less Than $5,000	None, But Recommended see PM 12-09	Department Director	See dept. procedures
$5,000 - $10,000	Selection from Architect & Engineer List or Solicit at Least Three Written or Oral Proposals	Department Director	See dept. procedures
$10,001 - $30,000	Selection from Architect & Engineer List or Informal Written Solicitation (Solicit At Least Four Written Competitive Proposals)	Department Director	See dept. procedures
$30,001 - $100,000	Selection from Architect & Engineer List or Formal Written Solicitation (Competitive Negotiation)	Department Director	See dept. procedures
Over $100,000	Formal Written Solicitation (Competitive Negotiation)	• Department Director • Board of Supervisors (information item)	See dept. procedures
Procurement of Construction Services for *Capital Construction Departments*			
Less Than $5,000	None, But Recommended see PM 12-09	Department Director	See dept. procedures
$5,000 - $10,000	Solicit at Least Three Written or Oral Quotes	Department Director	See dept. procedures
$10,001 - $50,000	Informal Written Solicitation (Solicit At Least Four Written Competitive Bids)	Department Director	See dept. procedures
$50,000 - $100,000	Formal Written Solicitation (Competitive Sealed Bid)	Department Director	See dept. procedures
Over $100,000	Formal Written Solicitation (Competitive Sealed Bid)	• Department Director • Board of Supervisors (information item)	See dept. procedures

FAIRFAX COUNTY
CONTRACT AMENDMENTS AND APPROVAL LEVELS (1)
JULY 1, 2007

(MATRIX #2)

AMOUNT OF CONTRACT AMENDMENT	REVIEW LEVELS	APPROVAL AUTHORITY
Procurement of Goods and Non-Professional Services		
Any Amount	DPSM Buyer - DPSM Purchasing Supervisor	See DPSM Internal Procedural Memorandum 12-205
Procurement of Architectural/Engineering Services for *Capital Construction Departments* (2)		
$0 - $100,000	Contract Administrator	Purchasing Agent or Designee (3)
> $100,000	Contract Administrator - Purchasing Agent or Designee (3)	County Executive (4)
Procurement of Construction Services for *Capital Construction Departments*		
Any Amount	Contract Administrator	Department Director (3)
Procurement of Professional Services or Consultant Services (2)		
$0 - $100,000	DPSM Buyer - DPSM Purchasing Supervisor- Designee/Contract Administrator	Purchasing Agent or Designee (3)
> $100,000	DPSM Buyer - DPSM Purchasing Supervisor - Purchasing Agent or Designee (3)	County Executive (4)

(1) The *Fairfax County Purchasing Resolution* requires the Purchasing Agent to review and provide advance written approval of all fixed-price contracts if the contract is being modified by more than twenty-five (25%) of the amount of the contract or $50,000, whichever is greater. In addition, any contract amendment that increases the cumulative contract value that breaches an established contract approval level, will require approval of the contract at that level.

(2) Once the Board of Supervisors has noted a Professional Services or a Consultant Services contract where the initial amount exceeds $100,000, subsequent contract amendments are approved on an individual basis, with the dollar thresholds noted above and without regard to cumulative amendment levels.

(3) Directors of Capital Construction Agencies (Department of Public Works/Environmental Services, Fairfax County Park Authority, Department of Housing and Community Development, and the Fairfax County Public Schools).

(4) County Executive will advise the Board of Supervisors of: 1) contract amendments for Professional Services or Consultant Services that he has approved that exceed $100,000 in value, and/or 2) contracts for Professional Services or Consultant Services that were initially approved under $100,000 but will exceed this amount due to subsequent amendment(s).

EXHIBIT V

SCOPE OF WORK

(Exhibit V is strictly a sample and must be reviewed by local legal staff before use)

1.0 PROJECT DESCRIPTION AND REQUIREMENTS

1.1. This document constitutes a Request for Proposal (RFP) from _____County for experienced firms to remove and lawfully dispose of disaster-generated debris (other than hazardous materials and household putrescible garbage) from public property and public rights-of-way, and to setup and operate TDSR sites at designated locations within _____County immediately after a hurricane or other disaster.

1.2. The objective of the RFP and subsequent contracting activity is to secure the services of an experienced CONTRACTOR who is capable of efficiently removing large volumes of disaster-generated debris from a large area in a timely and cost-effective manner and lawfully disposing of all debris. The successful proposer (CONTRACTOR) must be capable of assembling, directing, and managing a work force that can complete the removal of approximately ____ million cubic yards of debris from any combination of unincorporated areas and/or incorporated municipalities as identified in this RFP within _____County in a maximum of 90 calendar days and complete all disposal operations within 180 calendar days.

1.3. The contract will be for a five (5) year term, pending annual re-certification of the CONTRACTOR'S capabilities.

1.4. While intended to cover debris management needs in any major disaster scenario, the primary focus is on the threat of hurricane damage to _____County. The planning standards used for this project are based on the anticipated impacts of a Category 4 "wet" hurricane. However, the management of debris created by all other types of man-made and natural disasters is also included within the scope of this contract.

1.5. This RFP pertains to the unincorporated areas of _____County and the following municipalities (hereinafter referred to as AUTHORIZED AGENCIES):

- _____
- _____

1.6. The jurisdictional boundaries of these AUTHORIZED AGENCIES are shown in Exhibit ___ to Attachment A. _____ County will issue Task Orders based on requests from the municipalities identified as AUTHORIZED AGENCIES and for the unincorporated portions of the County. The Task Orders will apply only within the jurisdictional boundary of the initiated AUTHORIZED AGENCY or unincorporated portions of the County. Temporary Debris Staging and Reduction (TDSR) sites and landfills within neighboring jurisdictions shall not be presumed to be available for the CONTRACTOR'S use unless so specified within the task order.

1.7. _____ County will assign a Debris Manager (DM) and will establish and staff a Debris Management Center (DMC), which will provide overall coordination between the Debris Managers (DMs) of the above listed AUTHORIZED AGENCIES. The DMC and AUTHORIZED AGENCIES' DM, will be the primary point of contact for the CONTRACTOR and will resolve contract administration issues and disputes between jurisdictions using this contract.

2.0 BACKGROUND

2.1. Introduction

2.1.1. The _____ County Debris Management Plan includes considerations for removing and processing the volumes and types of debris expected to be generated by a major disaster such as hurricane and the procedures for disposing of that debris. The planning approach is formulated in part on the concept of strategic pre-positioning of plans and resources necessary for timely, coordinated recovery operations, including removal of debris from public property and right-of-ways throughout _____ County using a combination of county, municipal, and CONTRACTOR forces.

2.1.2. _____ County envisions the need for multiple contracts to carry out the debris removal and disposal work throughout _____ County based on a Category 4 "wet" hurricane. A basic assumption of this contract is that a CONTRACTOR who is capable of managing the debris and infrastructure damage associated with a Category 4 "wet" hurricane will also be capable of coping with the damage created by other types of man-made and natural disasters.

2.1.3. The CONTRACTOR must have the capacity to manage a major workforce with multiple subcontractors and to cover the expenses associated with a major recovery operation prior to the initial payment and between subsequent payments, as well as the capacity to provide the necessary bonds and insurance. The CONTRACTOR must also have an established management team, an established network of resources to provide the necessary equipment and personnel, comprehensive debris removal and volume reduction operations plans, and demonstrable experience in major disaster recovery projects.

2.1.4. The contract to be awarded under this RFP will be a contingency contract that will be activated only in the face of an emergency. As such, no compensation will accrue to the CONTRACTOR unless and until the contract is activated either in anticipation of a natural disaster or immediately after such disaster.

2.1.5. Potential CONTRACTORS are solely responsible for their own costs of developing the proposal associated with this RFP. In addition, a CONTRACTOR who receives a contingency contract for the work will be required to participate in certain _____ County directed disaster recovery training and/or exercises, 1 to 2 days each year, at no cost to _____ County.

2.2. Planning Standard for Debris Removal and Disposal

2.2.1. _____ County has selected a Category _____ "wet" hurricane that impacts the entire County with equal intensity as its planning standard. The worst-case debris volume anticipated from such a storm impacting the entire _____ County area with equal intensity is approximately _____ million cubic yards. For purposes of preparing this contract, this estimated volume is also anticipated to adequately cover the worst-case situation for other types of man-made and natural disasters.

2.2.2. The volume of debris estimated for the AUTHORIZED AGENCIES and the unincorporated portions of the County are shown in Exhibit ___ to Attachment A. This estimated debris volume is a planning figure that was used in determining the maximum land area requirement for TDSR sites and other resource needs. It is not a fixed quantity

for the purpose of contractual obligations. The actual volume of debris may be greater than or less than _____ million cubic yards. For the purpose of this RFP and solely for the purpose of standardizing the contents of all submittals each CONTRACTOR shall use a planning figure of _____ million cubic yards of debris as the initial volume estimate for post disaster debris that could be assigned to that CONTRACTOR. (See Exhibit ___, Bid Schedule).

2.2.3. _____ County's goal is to use as many as _____ CONTRACTORS to complete the removal of debris within 90 calendar days and to complete all disposal and recycling operations within 180 calendar days. This assumes that the entire _____ County area will be accessible within that period. Due to the low elevation and potential for flooding, some areas might not be accessible for several days after a major natural disaster. The CONTRACTOR must be aware that it might not be possible to initiate operations in all parts of the area simultaneously immediately after a storm.

2.2.4. Recycling of debris by the CONTRACTOR is encouraged and will be coordinated with _____ County and the AUTHORIZED AGENCIES. Recycling efforts will also be carried out under the current recycling programs existing at most landfills. The strength or weakness of the various landfills' recycling programs will be a factor in choosing disposal locations.

2.3 Debris Management

2.3.1. Planning for debris management operations is a function of _____ County Department of Emergency Management. The County's Debris Manager, in coordination with the AUTHORIZED AGENCIES, will direct the debris removal and disposal operations from the County Debris Management Center.

2.3.2. In addition to using AUTHORIZED AGENCIES forces and equipment, _____ County intends to execute _____ (but reserves the right to execute more or less than ____) debris removal and disposal contracts on a contingency basis for the purpose of having CONTRACTOR(S) immediately available and committed to assisting _____ County and the AUTHORIZED AGENCIES in the aftermath of a major disaster. Each CONTRACTOR holding a debris removal and disposal contract will serve as a General Contractor for the purpose of debris removal and disposal operations, and will be able to use his/her own and subcontractor resources to meet the obligations of the contract. It is anticipated that the CONTRACTOR will use both local and non-local subcontractors.

2.3.3. When a major disaster occurs or it is imminent, _____ County will contact the firm(s) holding Debris Removal and Disposal Contracts to advise them of _____ County's intent to activate the contracts. Debris removal will generally be limited to debris in, upon, or brought to public streets and roads, rights-of-way, municipal properties and facilities, and other public sites. The CONTRACTOR will be responsible for determining the method and manner of debris removal and lawful disposal operations, consistent with this Scope of Work. Disposal of debris will be at County approved landfill sites. The CONTRACTOR will be responsible for the lawful disposal of all debris and debris-reduction by-products generated at all TDSR sites. The term temporary debris management site is frequently used in the business of debris management. For purposes of this contract the terms TDSR site and temporary debris management site are considered to be synonymous.

2.3.4. When a major disaster occurs or is imminent, _____ County will initially send out an Alert to the selected CONTRACTOR(S). This Alert will serve to activate the lines of communication between the CONTRACTOR representatives and _____ County and may require the CONTRACTOR to send an Operations Manager to _____ County within 24 hours to begin planning for operations and mobilization. Subsequently, _____ County will issue the first Task Order, which will authorize the CONTRACTOR to begin mobilizing the personnel and equipment as necessary to perform the stipulated work. This first Task Order will also direct the CONTRACTOR to execute the required Performance and Payment Bonds. The CONTRACTOR should anticipate receiving this first Task Order from _____ County within the first 24 hours following landfall of a hurricane or occurrence of other disaster. Additional task orders will be issued for those AUTHORIZED AGENCIES, indicated in a _____ County task order, for the debris removal, reduction, and disposal, within the boundaries of the AUTHORIZED AGENCIES or the County. Contractor invoices for services performed under the first and subsequent task orders, should be presented for payment to the County. The CONTRACTOR shall provide an Operations Supervisor for each AUTHORIZED AGENCY that requests a task order for services. This Operations Supervisor will coordinate all activities of the CONTRACTOR within the boundaries of the AUTHORIZED AGENCY and with the AUTHORIZED AGENCY'S staff.

2.3.5. The general concept of debris removal operations includes multiple, scheduled passes of each site, location, or right-of-way. This will allow residents to return to their properties and bring debris to the right-of-way as recovery progresses. _____ County or the AUTHORIZED AGENCIES will prescribe the specific schedule to be used after ascertaining the scope and nature of the disaster's impacts. The CONTRACTOR can assume the scope and schedule for debris removal, as prescribed by _____ County and/or the AUTHORIZED AGENCIES, will be consistent with the description of critical facilities and route clearing priorities based on as assessment of the disaster.

2.3.6. TDSR sites will be as identified for the temporary staging and reduction of vegetative and woody debris only. _____ County or the AUTHORIZED AGENCIES will identify additional TDSR sites as needed.

2.3.7. The CONTRACTOR will operate the TDSR sites and only CONTRACTOR vehicles and others specifically authorized by _____ County will be allowed to use the sites. The locations of publicly owned sites currently identified are shown in Exhibit _____ to Attachment A. Additional sites may become available as plans develop.

2.3.8. _____ County and the AUTHORIZED AGENCIES may also establish designated homeowner drop-off sites. The CONTRACTOR will be responsible for removing all debris from those sites daily.

2.3.9. Curbside segregation of debris and disaster-generated or related wastes will be an element of _____ County's disaster recovery program. The debris removal and disposal CONTRACTOR will be required to aid in the segregation and waste stream management processes. Waste and debris from hurricanes, and other major storm events, will be classified into the following six categories with responsibility as shown:

- Household trash and putrescible garbage – continued responsibility of County/City Solid Waste Collection forces and associated CONTRACTORS.

- Leaves and lawn litter, placed in clear plastic bags, placed by curb or shoulder of road – CONTRACTOR responsibility for removal and disposal**.** CONTRACTOR will decide, with concurrence by _____ County and the AUTHORIZED AGENCIES, whether plastic bags are to be co-mingled with the loose vegetative debris or are to be collected separately to facilitate recycling.

- Vegetative and clean, woody debris, suitable for chipping, grinding or burning, loosely stacked, placed by curb or road shoulder, This includes logs, stumps, rootballs, limbs, branches, and complete trees that may be removed and placed by the curb or road shoulder for collection. Any reduction of size of woody debris to make suitable for chipping, grinding or burning is part of the CONTRACTORS responsibility. – CONTRACTOR responsibility for removal and disposal.

- Construction and demolition (C&D) debris, furniture, furnishings, appliances, etc. suitable for being landfilled or recycled, stacked by curb or shoulder – CONTRACTOR responsibility for removal and disposal.

- Household Hazardous Waste (HHW), separated from all other types of waste and debris, placed at curb or road shoulder – _____ County and/or AUTHORIZED AGENCIES responsibility for removal.

The above categories of responsibility include the opportunity for ownership, pending negotiations, and upon collection and removal this debris may be available for recycling and sale by the responsible CONTRACTOR.

2.3.10. Citizens will be advised to separate all waste and debris, to the extent practicable, into the above categories. Failure by the citizens to perform this separation does not relieve the CONTRACTOR of his/her curbside separation responsibilities, to the extent practicable.

2.3.11. Any Household Hazardous Waste (HHW) encountered by the debris removal CONTRACTOR is to be set aside. HHW disposal will be the responsibility of _____ County and the AUTHORIZED AGENCIES. _____ County will designate HHW drop-off locations for use by residents. The following items are considered HHW for the purpose of this contract:

- Cleaning Products
- Batteries
- Workshop/Painting Supplies
- Aerosol spray cans
- Indoor Pesticides
- Lawn and Garden Products
- Automotive Products
- Fluorescent light bulbs
- Propane tanks and other compressed gas cylinders
- Flammable Products
- Home/Office Electronics – computers, TV's, monitors, lithium, and cadmium batteries

2.3.12. The CONTRACTOR will set up a lined containment area and separate any HHW inadvertently delivered to a TDSR site.

2.3.13. Commercial and industrial hazardous waste such as chemicals, gas containers, transformers, and any other form of hazardous or toxic matter will be set aside for collection and disposal by a Hazardous Materials Removal and Disposal Contractor who will be selected by _____ County or the AUTHORIZED AGENCIES.

2.3.14. The responsibility for management of debris created by other man-made and natural disasters will be the same as for hurricanes, however, the quantities and the mixture of debris categories could be substantially changed.

3.0. SCOPE OF WORK

3.1. Overview

3.1.1. The scope of work for this RFP is divided into three (3) parts. Part 1 is for Debris Removal and Disposal Operations. Part 2 is for TDSR site Operations. Part 3 is Debris clearance for access from rights-of-way and public property.

3.1.2. Specific work authorizations by _____ County will be through written Task Orders. Task Orders will define the job to be accomplished, location of job, time frame for completion, rates to be used, etc. Other disaster response and recovery work may be added, such as screening sand for beach replenishment, and any requirements or rates not covered by this Proposal will be negotiated. _____ County reserves the right to extend operations on a weekly basis.

3.1.3. The CONTRACTOR shall commence mobilization immediately upon receipt of the mobilization Task Order, meeting the following progress patterns: ***36*** hours- 25%, ***72*** hours- 50%, ***96*** hours- 75%, and ***120*** hours- 100% unless otherwise negotiated. This represents a minimum response schedule and does not restrict an earlier response. Subsequently, _____ County may issue additional Task Orders to define more precisely the work to be accomplished or to authorize additional work. The CONTRACTOR shall perform in accordance with each Task Order for those Municipalities established by _____ County as AUTHORIZED AGENCIES. Each Task Order will be uniquely and sequentially numbered.

The CONTRACTOR shall be knowledgeable on the rules and regulations governing the transport of heavy equipment and oversized loads across state boundaries. An emergency situation in _____ County, _____ does not assure any waiver of regulations or assistance in expediting equipment transportation by other states.

3.1.4. The CONTRACTOR must be duly licensed to perform the work in accordance with the State of _____ code requirements. The CONTRACTOR shall obtain all permits necessary to complete the work. The CONTRACTOR shall be responsible for determining what additional permits are necessary to perform under the contract, but at the minimum must hold a business license and CONTRACTOR's license from each AUTHORIZED AGENCY where services are performed. Copies of all permits shall be submitted to the _____ County Debris Manager as soon as available.

3.1.5. The quantity of work required to complete this contract is estimated. The actual effort required may be more or less than the estimated amount shown in the Price Proposal Form (Exhibit B). Payment will be made at the unit rates proposed by the CONTRACTOR. The output will be verified by _____ County and/or the AUTHORIZED AGENCIES in the daily operational report. Should hourly rates be used to pay for certain equipment, then preventative maintenance not in excess of fifteen (15) minutes in a normal workday will be paid at the regular hourly rate. Preventative maintenance or down time resulting from equipment failure, routine maintenance and fueling that exceeds fifteen (15) minutes will be considered unacceptable work and non-payment of that time will be rounded off to the half hour of all hours where delays occur. Preventative maintenance is defined as the usual field maintenance to keep equipment in operating condition without the use of extensive shop equipment. Fueling of equipment will be considered as part of preventative maintenance.

3.1.6. The CONTRACTOR shall be responsible for correcting any notices of violations issued as a result of the CONTRACTOR'S or any subCONTRACTOR's actions or operations during the performance of this contract. Corrections for any such violations shall be at no additional cost to _____ County and/or the AUTHORIZED AGENCIES.

3.1.7. The CONTRACTOR shall conduct the work so as not to interfere with the disaster response and recovery activities of federal, state or local governments or agencies, or of any public utilities or other private CONTRACTOR.

The CONTRACTOR shall ensure that wherever non-English speaking crews are utilized, at least one crew supervisor must be fluent in English.

3.2. Part 1 – Debris Removal and Disposal Operations

3.2.1. The purpose of Part 1 of this scope of work is to define the requirements for debris removal and disposal operations after any catastrophic disaster within the _____ County area.

3.2.2. The CONTRACTOR shall provide equipment, operators and laborers for debris removal operations. The CONTRACTOR shall provide all labor and materials necessary to fully operate and maintain (including fuel, oil, grease, and repairs) all equipment under this contract.

3.2.3. All rates are to be fully costed, inclusive of the cost of protective clothing (to include hardhats and steel-toed boots), fringe benefits, hand tools, supervision, transportation**,** traffic control and any other costs.

3.2.4. The work shall consist of clearing and removing disaster generated debris as directed by _____ County and/or the AUTHORIZED AGENCIES. During the course of this contract, and once operations have commenced, the CONTRACTOR shall not relocate any equipment or labor assets, including subCONTRACTORs, from one AUTHORIZED AGENCY to another without giving 24 hours advanced notice of the intended relocation to both AUTHORIZED AGENCIES. In addition to this requirement for advanced notice, the CONTRACTOR will complete all debris clearing, loading and hauling operations that have been started on any particular pass through a neighborhood.

3.2.5. The debris, once loaded and removed from the public rights-of-way or other public property, shall become the property of the CONTRACTOR, unless otherwise negotiated by the _____ County. _____ County or the AUTHORIZED AGENCIES will provide TDSR sites, to the extent they are available, for the CONTRACTOR'S use in volume reduction efforts and recycling programs.

Work may include:

- Clearing debris from public rights-of-way and public property, if authorized.
- Constructing TDSR sites, as required, at locations selected or approved by the County or AUTHORIZED AGENCIES.
- Loading and hauling debris from public rights-of-way and public property to TDSR sites, or authorized disposal facilities, and dumping.
- Managing and operating the TDSR sites and loading debris reduction by-products for hauling and disposal.
- Performing debris by-product recycling programs, as negotiated and approved by the County.
- Hauling non-recycled debris and debris reduction by-products to an authorized disposal facility.
- Providing traffic control during debris loading operations on public rights-of-way.

3.2.6. The County will be responsible for all tipping fees at the authorized landfill. Debris delivered to a TDSR site will be paid based on the price per cubic yard for unreduced debris and the distance hauled according to Items 1.1 through 1.4 of Part A of the Price Proposal Form (Exhibit B).

3.3. TDSR Sites

3.3.1. The CONTRACTOR shall use only TDSR sites designated by _____ County and/or AUTHORIZED AGENCIES Debris Managers. The CONTRACTOR shall not assume that TDSR sites and landfills, located outside of the jurisdictional boundaries of the agency initiating a task order, are available to the CONTRACTOR unless so specified in the task order.

3.3.2. The TDSR site foreman is appointed by the CONTRACTOR and shall direct all dumping operations and will coordinate removal of debris, and reduction by-products to _____ County authorized landfill locations for subsequent disposal, or to recycling processors selected by the CONTRACTOR and approved by _____ County.

3.4. Equipment

3.4.1. All trucks, trailers and equipment must be in compliance with all applicable federal, state, and local rules and regulations. Trucks and trailers used to haul debris must be capable of rapidly dumping their load without the assistance of other equipment, be equipped with a tailgate that will effectively contain the debris during transport and that will permit the trucks to be filled to capacity. Cyclone fence may be used as temporary tailgates if they comply with the following specifications:

- Fencing must be permanently attached to one side of the truck bed.
- After loading, the fencing must be tied to the other side of the truck bed at two places with heavy gauge wire.
- Fencing must extend to the bottom of the bed.
- After loading, bottom of fencing shall be tight against the bed of the truck and secured at a minimum of two locations.
- Solid iron metal bars must be secured to both sides of the fencing.

3.4.2. All trucks and trailers must be suitable for equipment loading. The County Debris Manager desires that the CONTRACTOR maximize the use of self-loading trucks equipped with grapples or loaders with grapple attachments to reduce potential collateral damage and to expedite the cleanup operation. **Hand loading of trucks or trailers must be approved in writing by the County Debris Manager before being put into operation.** Trucks that do not comply with these conditions may be approved for use, depending upon the needs of _____ County, but a deduction will be made to the measured maximum volume to account for reduced compaction capability and inefficiency of operation. County monitors located at temporary or final debris disposal sites will reduce the observed capacity of each **hand-loaded trailer or truck** load by 50% because of the low compaction achieved by hand loading. For example, if a 40 cubic-yard (CY) hand-loaded truck or trailer arrives at the debris management or disposal site, and it appears to be 100 percent full, the actual quantity of debris in the trailer will be recorded as: 20 CY {(40 CY / 2) * 100%}. In the same manner, if the truck or trailer appears half full, the load will be recorded as: 10 CY {(40 CY / 2) * 50%}. The maximum amount recorded for a hand-loaded vehicle will be 50% of its measured capacity.

3.4.3. The CONTRACTOR shall submit to _____ County certifications indicating the type of vehicle, make and model, license plate number, equipment number, and measured maximum volume, in cubic yards, of the load bed of each piece of equipment utilized to haul debris. The measured volume of each piece of equipment shall be calculated from actual internal physical measurement performed by the CONTRACTOR and a _____ County representative. Maximum volumes may be rounded to the nearest cubic yard. The reported measured maximum volume of any load bed shall be the same as shown on the signs fixed to each piece of equipment. _____ County reserves the right to re-measure trucks at any time to verify reported capacity.

3.4.4. All trucks and trailers utilized in hauling debris shall be equipped with a tailgate that will permit the vehicle to be loaded to capacity and effectively contain the debris on the vehicle while hauling. **Sideboards, if installed, must be constructed of 2" x 6" boards or greater and may not extend more than 2-feet above the metal bedsides.** Once installed all sideboard extensions must remain in place throughout the operation, or the vehicle must be re-measured and remarked. All extensions to the bed, and any exceptions to the above requirements, such as ¾" minimum plywood, must be approved in writing by the County Debris Manager.

3.4.5. Trucks or equipment that are designated for use under this contract shall not be used for any other work. The CONTRACTOR shall not solicit work from private citizens or others to be performed in the designated AUTHORIZED AGENCY or County during the period of this contract. Under no circumstance will the CONTRACTOR mix debris hauled for others with debris hauled under this contract. Neither will the CONTRACTOR

mix debris being hauled for different AUTHORIZED AGENCIES prior to delivery to a TDSR site.

3.5. Securing Debris

3.5.1. The CONTRACTOR shall be responsible for properly and adequately securing debris on each piece of equipment utilized to haul debris. Prior to leaving the loading site, the CONTRACTOR shall ensure that each load is secure and trimmed so that no debris extends horizontally beyond the bed of the equipment in any direction. All loose debris shall be reasonably compacted during loading and secured during transport. Tarps or other coverings shall be provided by the CONTRACTOR to prevent reduction by-products and other materials from being blown from the bed during hauls to disposal landfills.

3.5.2. The overall maximum height of hauling equipment, including sideboards and debris, shall be no greater than 13 feet 6 inches, or as approved by the County. The 13 feet 6 inch height restriction is intended to ensure that vertically protruding debris or equipment does not snag traffic signals, conductors, and support wiring. The CONTRACTOR must also verify the clearance of bridges and overpasses on all routes to be used, however, any such structure, with clearance less than 13 feet 6 inches, should be placarded showing the reduced clearance. Maximum width of a truck should be no greater than 8'6" wide. The CONTRACTOR is not relieved of the responsibility for verifying clearance for all overhead structures and wires**.**

3.6. Equipment Signage

3.6.1. Prior to commencing operations, the CONTRACTOR shall affix to each piece of equipment, signs or markings indicating the Owner Operator's name and a unique equipment identification number. One sign shall be placed on each side of the equipment. For those trucks, trailers and other equipment intended to haul debris, the maximum volume, in cubic yards, of the load bed shall also be shown. Signs shall be maintained in an easily readable fashion for the duration of the work. Minimum letter size shall be 3" in height.

3.7. Other Considerations

3.7.1. The CONTRACTOR shall assign and provide an Operations Manager (OM) to _____ County's Debris Management Center to serve as the principal liaison between the _____ County Debris Manager and the CONTRACTOR'S forces. The assigned OM must be knowledgeable of all facts of the CONTRACTOR'S operations and have authority in writing to commit the CONTRACTOR. The OM shall be on call 24 hours per day, seven days per week and shall have electronic linkage capability for transmitting and receiving relevant contractual information and make arrangement for on site accommodations. This linkage shall provide immediate contact via cell phone, Fax machine, and have Internet capabilities. The OM will participate in daily meetings and disaster exercises, functioning as a source to provide essential element information. The OM will report to the _____ County Debris Manager. This position will not require constant presence; rather the OM will be required to be physically capable of responding to the _____ County Debris Manager within one hour of notification.

3.7.2. In like manner, the CONTRACTOR'S Operations Manager shall assign and provide an Operations Supervisor for each AUTHORIZED AGENCY that is identified in a County Task Order. These subordinate operations supervisors are responsible to the CONTRACTOR'S Operations Manager and serve as the CONTRACTOR'S day-to-day point of contact and representative with the AUTHORIZED AGENCY. Depending upon the magnitude and complexity of the debris removal operations, it may be permissible to allow an individual Operations Supervisor to represent the CONTRACTOR and his/her Operations Manager with more than one AUTHORIZED AGENCY. Multiple assignments for Operations Supervisors require County approval.

3.7.3. The CONTRACTOR shall be responsible for control of pedestrian and vehicular traffic in the work area. At a minimum, one flag person should be posted at each approach to the work area.

3.7.4. The CONTRACTOR shall supervise and direct the work, using skilled labor and proper equipment for all tasks. Safety of the CONTRACTOR'S personnel and equipment is the responsibility of the CONTRACTOR. Additionally, the CONTRACTOR shall pay for all materials, personnel, taxes, and fees necessary to perform under the terms of this contract.

3.7.5. Payment for debris hauled will be based on the quantity of debris hauled in truck/trailer measured cubic yards and the distance hauled depending on where the debris is taken. Debris hauled to a TDSR site will require a validated load ticket. Drivers will be given load tickets at the loading site by a County loading site monitor. The quantity of debris hauled will be estimated in cubic yards at the TDSR site by a County TDSR site (Disposal) monitor. The estimated quantity will be recorded on the load ticket. The County TDSR site monitor will retain one copy of the load ticket and the driver will retain two copies of the load ticket. Debris being hauled to a permanent landfill will be paid based on cubic yards and the distance hauled recorded on an approved load ticket. Payment will be made against the CONTRACTOR'S invoice once site monitor and CONTRACTOR load tickets and/or scale tickets match. A sample debris load ticket is provided by Exhibit ___ of Attachment A. The load ticket will include an original and four copies.

3.7.6. The County and/or AUTHORIZED AGENCY TDSR site monitors and the disposal facility monitors will use their best judgement in estimating the quantity of debris in the trucks. For purposes of this contract the County and/or AUTHORIZED AGENCY monitors are the final authority. Trucks are assumed to be carrying 100% full loads, but deductions will be made for: consolidation during hauling, lightly packed loads with excessive air voids, and voids caused by incomplete loading at the loading site.

3.8. Part 2 – TDSR Site Operations

3.8.1. The purpose of Part 2 of this scope of work is to define the requirements for TDSR site Operations after any catastrophic disaster within _____ County.

3.8.2. The scope of work for TDSR site Operations consists of two phases.

3.8.3. Phase I. The first phase includes site setup/preparation and site closeout/restoration and shall be compensated on a time and materials basis in accordance with the hourly rates provided in the Price Proposal Form, Part B (Exhibit B). Site

setup/preparation/closeout/restoration includes: clearing, stripping, hauling, fill placement, constructing/deconstructing processing pads, limerick or crushed concrete access roads, sodding, and any other similar activity necessary to make the site usable for its intended purposes and to return the site to its original condition. Do not include any materials in calculating the hourly rates in Price Proposal Form, Part B. Materials required for set/preparation and closeout/restoration shall be paid at cost or as negotiated during the issuance of the Task Order.

3.8.4. Additional guidance on the procedures for TDSR site setup, operation and close out are provided in Exhibit ____ to Attachment A. This exhibit includes subsections regarding:

- TDSR Site Setup, Operation and Close Out Guidelines
- Burning and Grinding Operations
- Environmental Checklist for Air Curtain Pit Burners
- Land Application of Wood Ash
- Spontaneous Combustion in Mulch Piles
- Closure and Restoration of TDSR Sites

3.8.5. Phase II consists of TDSR site operations and material processing and shall be compensated in accordance with the unit prices provided in the Price Proposal Form, Part A. (Exhibit B).

3.8.6. The CONTRACTOR shall provide equipment, operators, and laborers for TDSR site operations as specified by Task Order. Unit prices provided in the Price Proposal Form, Part A, shall include all labor and materials necessary to fully operate and maintain (including fuel, oil, grease, repairs, operator, mobilization, demobilization, overhead, profit, and insurance) all equipment under this contract.

3.8.7. For work performed on a Time and Materials basis, all hourly equipment rates shall include the cost of the maintenance, fuel, repairs, overhead, profit, insurance, and any other costs associated with the equipment including labor and operator unless costs identified separately in the Task Order.

3.8.8. All rates shall include the cost of protective clothing (to include hardhats and steel-toed boots), fringe benefits, hand tools, supervision, transportation, and any other costs.

3.8.9. The work shall consist of managing the operations of a TDSR site and performing debris reduction by air curtain incineration and or grinding of storm generated debris as directed by the _____ County Debris Manager, and/or recycling of marketable material by the CONTRACTOR.

3.8.10. The County plans to use only vegetative TDSR sites that will be devoted to the reduction of clean woody debris by either burning or grinding, if the disaster is related to a hurricane or other major storm event.

3.8.11. Mixed debris and Construction & Demolition (C&D) debris will be hauled directly to a County identified temporary transfer point or authorized landfills. All currently authorized landfills are shown in Exhibit ___ to Attachment A. Additional landfills may be identified as work progresses.

3.8.12. The establishment of C&D TDSR sites, to operate as transfer points, will be authorized if the situation involves other types of man-made or natural disasters with greater volumes of C&D debris.

3.8.13. Material coming into the Vegetative TDSR sites will be measured and paid for by the in bound, truck measured, cubic yard according to the Price Proposal Form, Part A.

3.8.14. Locations of all TDSR sites will be provided by the County and currently identified sites are shown in Exhibit ___ to Attachment A. The County Debris Manager must approve site improvements before work begins and any costs, other than those in the Price Proposal Form, that might have been negotiated under a Task Order shall be documented for payment.

3.8.15. When performing a Task Order using Part B Hourly Prices the CONTRACTOR shall submit a report to the County Debris Manager by 11:00 a.m. each business day, for the previous day's work for the term of the Task Order. A sample Task Order is provided by Exhibit ___ to Attachment A. Each report shall contain, at a minimum, the following information:

- Contractor's Name
- Contract Number
- Task Order Number
- Daily and cumulative hours for each piece of equipment, if appropriate.
- Daily and cumulative hours for personnel, by position, if appropriate.
- Volumes of debris handled
- Volume of debris recycled

3.8.16. Failure to provide audit quality information will subject CONTRACTOR to non-payment in each instance at the sole discretion of the County.

3.8.17. The CONTRACTOR shall supervise and direct the work, using skilled labor and proper equipment for all tasks. Safety of the Contractor's personnel and equipment is the responsibility of the CONTRACTOR. Additionally, the CONTRACTOR shall pay for all materials, personnel, taxes, and fees necessary to perform under the terms of this contract.

3.8.18. The CONTRACTOR shall be responsible for control of pedestrian and vehicular traffic in the work area.

3.8.19. The County will not provide to the Contractor(s) potable water, sewage treatment, fuel, electricity, other utilities, or other personnel, materials or equipment deemed necessary to operate the vegetative debris volume reduction or temporary C&D debris staging site(s).

3.8.20. The Contractor(s) shall provide utility clearances and sanitation facilities, if needed. The Contractor(s) shall protect existing infrastructure at the sites and repair any damage caused by his operations at no additional cost.

3.8.21. The Contractor(s) shall be responsible for installing site security measures and maintaining security for operations at the site.

3.8.22. The Contractor(s) shall manage the site to minimize the risk of fire.

3.8.23 The Contractor(s) shall be responsible for the closure of the TDSR site(s) within 30 calendar days of receiving the last load of disaster-related debris. This closure shall include removal of site equipment, debris, and all remnants from the processing/staging operation (such as temporary toilets, observation towers, security fence, etc.), and grading the site, and restoring the site to pre-work conditions. The site will be restored in accordance with all local requirements. The Contractor(s) is responsible for the proper disposal of non-burnable and unprocessed debris and wood chips. Disposal of the hazardous waste debris and home/office electronic devices is not the responsibility of the Contractor(s) under this contract. The disposal of hazardous waste debris and home/office electronic devices is to be coordinated through the County Debris Management Center. The Contractor(s) shall receive approval from the County Debris Manager as to the final acceptance of a site closure. Final payment shall be released to the Contractor(s) upon acceptance of the site by the County Debris Manager.

3.9. Part 3 – Debris Clearance (for access) from Rights-of-Way and Public Property

3.9.1. The County provides debris management, including the clearance (moving debris from the middle of the road, etc.) of debris from rights-of-way and public property. The County and AUTHORIZED AGENCIES intend to perform debris clearance for access with their own forces or under existing contractual agreements between the AUTHORIZED AGENCIES and local firms. However, in a significant disaster, these resources may be insufficient to perform the clearance activities in a timely manner.

3.9.2. This debris clearance is to be considered a supplemental service. It is anticipated that debris clearance activities would be conducted, if needed, on a time and material basis with a limit of 70 hours using the rates in the Price Proposal Form, Part B.

4.0 MISCELLANEOUS REQUIREMENTS

4.1. TDSR Site Foreman

4.1.1. The TDSR site foreman, provided by the CONTRACTOR, is responsible for management of all operations of the site to include, traffic control, dumping operations, segregation of debris, burning, grinding, and safety. The TDSR site foreman will coordinate directly with the County's/ AUTHORIZED AGENCY'S site monitor.

4.1.2. The TDSR site foreman will be responsible for documenting equipment and labor time, quantities of debris received, processed materials hauled away, and providing the daily operational report to the CONTRACTOR'S Operations Manager, for further delivery to the County's Debris Manager.

4.2. TDSR Site Night Foreman

4.2.1. The TDSR site night foreman, provided by the CONTRACTOR, is responsible for managing all night operations approved by the County/AUTHORIZED AGENCIES that

will be limited primarily to burning. Coordination with the County's/AUTHORIZED AGENCY'S site monitor is required.

4.2.2. The TDSR site night foreman will be responsible for documenting equipment and labor time, quantities of materials processed, and providing the daily operational report to the CONTRACTOR'S Operations Manager, for further delivery to the County's Debris Manager.

4.3. TDSR Site Management Plan

4.3.1. Once the TDSR site is identified by the County/AUTHORIZED AGENCY, the CONTRACTOR will provide a TDSR Site Management Plan.

4.3.2 Three (3) copies of the plan are required. The plan shall be drawn to a scale of 1" = 50' and address following functions:

- **Access to site**

  - Site preparation – clearing, erosion, and grading
  - Traffic control procedures
  - Safety
  - Segregation of debris
  - Location of ash disposal area, hazardous material containment area, CONTRACTOR work, area, and inspection tower
  - Location of incineration operations and grinding operations (if required). Burning operations require a 200-foot clearance from the stockpile and 500-foot clearance from structures, roadways or wooded areas.
  - Location of existing structures or sensitive areas requiring protection.

4.4. Inspection Tower

4.4.1 The CONTRACTOR shall construct an inspection tower at each TDSR site. The floor elevation of the tower shall be 10-feet above the existing ground elevation. The floor area shall be a minimum 8' by 8', constructed of 2" x 8" joists, 16" O.C. with ¾" plywood supported by a minimum of four 6" x 6" posts. A 4-foot high wall constructed of 2" x 4" studs and ½" plywood shall protect the perimeter of the floor area. The floor area shall be covered with a roof. The roof shall provide a minimum of 6' – 6" of headroom below the support beams. Steps with a handrail shall provide access to the tower. Tower will be anchored to the ground to prevent blow-over. Construction alternatives may be authorized by the County Debris Manager but will, as a minimum, provide the same dimensions and safety considerations.

4.4.2. The TDSR site, including the inspection tower, will be periodically inspected for compliance with FEMA and OSHA safety criteria. Applicable Site Applicant/Contractor Safety Audit Form is attached as Exhibit ___.

4.5. Household Hazardous Waste Containment Area

4.5.1. The CONTRACTOR shall construct a hazardous material containment area at each TDSR site. This area shall be 30' x 30'. The perimeter shall be lined with hay bales and staked in place. The area shall be lined with a heavy gage plastic to provide a waterproof

barrier. A six-inch layer of sand will be added as an absorbent and to protect plastic from puncture or tear. Additional plastic sufficient to cover the area is required to prevent rain from entering the containment area. Site run-off must be redirected from the containment area by site grading.

4.6. Private Property Access

4.6.1. The CONTRACTOR is not authorized to perform work on private property and shall not seek or accept requests from private property owners to perform debris clearing or removal activities. Under certain circumstances it may benefit all parties to the contract to obtain access to private property, or permission to cross private property, for the purpose of clearing and removing debris from public property or rights-of-way. For such situations a sample Right of Entry Agreement Form is provided as Exhibit ___ to Attachment A. If circumstances make removal of debris from private property necessary or beneficial to the County or the AUTHORIZED AGENCIES, a change to the scope of work will be negotiated.

4.7. Recycling Program

4.7.1 _____ County will consider the recycling programs that are in use at the available landfills, in the process of assigning the CONTRACTORS to use specific disposal locations. Recycling of construction and demolition (C&D) debris, through material salvage, and recycling of clean, woody debris by mulching and composting is within the County's Solid Waste mission and will be pursued to the extent practicable.

4.7.2. Recycling of debris removed by the CONTRACTOR is encouraged. The CONTRACTOR may be able to assume ownership of the debris upon collection and removal from rights-of-way or public property. Debris ownership will be the subject of negotiation with the County. Ownership of the debris may be transferred to the CONTRACTOR in whole or in part, and in either case, the following conditions will apply:

1. The TDSR sites may be available for use by the CONTRACTOR in the recycling efforts. However, the availability and environmental permitting will not be extended for TDSR sites beyond that required for normal debris reduction and disposal activities.

2. The sale of marketable timber, chips, mulch and other recyclable materials is authorized.

3. The share of the profits to be retained by the CONTRACTOR will be determined by the above negotiations.

4. Appropriate reductions to the Part A Quantities for TDSR site operations and for disposal site hauling will be negotiated with the County for all services not performed.

5. The overall cost to the County will not be increased as a result of the CONTRACTOR'S recycling program, and some decrease is anticipated and will be the subject of negotiations.

4.8. Debris Collection Efficiency/Cleanliness

4.8.1. The CONTRACTOR is responsible for collecting and removing, from public rights-of-way and public property, all debris that exceeds in size, weight, volume, or shape that which can reasonably be collected by the average homeowner using a rake, broom, shovel and plastic bags. Homeowners are responsible for collecting the small residual quantities of leaves, dirt, sawdust, twigs and similar small items of debris that can be readily put into plastic bags. Except for the above, the CONTRACTOR will collect and remove all debris existing on a street during each pass and not leave any debris for subsequent passes. This does not preclude the CONTRACTOR from using separate vehicles and crews to: separate plastic bags from other vegetative debris; collecting C&D debris; collecting recyclable timber or from hauling stumps with rootballs. The CONTRACTOR will organize his equipment and crews so that all types of debris are collected within any one pass.

4.9. Damages to Public or Private Property

4.9.1 The CONTRACTOR shall be responsible for any damage to private or public property that results from his debris collection and removal activities. Disagreements will be settled through negotiations. Repair of damaged areas will be performed immediately. The effected area or item will be restored to equal or better than its original condition. The CONTRACTOR shall supply the County with semi-weekly lists showing all damage claims that have been settled and all claim issues that remain outstanding.

4.10. Debris Removal from Drainage Systems

4.10.1. The CONTRACTOR may be required to clear debris from various ditches, canals, streams, lakes, reservoirs, structures and other drainage system components. This clearing may require either hauling or disposal on site, as directed by the County Debris Manager. The County will develop a scope of work for each system component including: description of debris to be removed including sizes and numbers of trees, locations, photographs, access points and similar information. The CONTRACTOR will submit lump sum cost estimates for each location with unit pricing taken from Part B of the Price Proposal Form.

4.11. Tree and Limb Removal with Specialized Equipment

4.11.1. The CONTRACTOR may be required to remove hazardous hanging limbs and branches that have not completely fallen to the ground and hazardous leaning or damaged trees that are still standing. The determination of the existence of a hazardous situation is the responsibility of the County Debris Manager and direction to proceed and pricing will be handled in a similar manner as Debris Removal from Drainage Systems. The County Debris Manager will provide a detailed description of the trees or limbs to be removed and the CONTRACTOR will provide a lump sum cost estimate based upon unit prices from Item 2.2 of Part A of the Price Proposal Form. Any deviation from these unit prices will be the subject of negotiations.

4.12. Removal of Hazardous Stumps

4.12.1. The CONTRACTOR may be required to remove hazardous stumps that have not been fully uprooted. The determination of the existence of a hazardous situation is the

responsibility of the County Debris Manager. Direction to proceed and pricing will be handled similar to Debris Removal from Drainage Systems and Tree & Limb Removal. The County Debris Manager will provide a detailed description of the stumps to be removed and the CONTRACTOR will provide a lump sum cost estimate based upon the unit prices from Item 2.1 of Part A of the Price Proposal Form. Any deviation from these unit prices will be the subject of negotiations. The loading, hauling and dumping of these stumps, as well as of stumps and rootballs that are already uprooted (not requiring extensive digging or grinding) shall be paid under Items 1.1 through 1.4, as appropriate.

5.0 ADDITIONAL CONSIDERATIONS

5.1. The County Debris Manager shall have the right to terminate a contract or a part thereof before the work is completed in the event:

5.1.1. Previous unknown circumstances arise making it desirable in the public interest to void the contract.

5.1.2 .The Contractor(s) is not adequately complying with the specifications.

5.1.3. Proper techniques are not being followed after warning notification by the County Debris Management Center.

5.1.4. The Contractor(s) refuses, neglects, or fails to supply properly trained or skilled supervisory personnel or workers or proper equipment of the specified quality and quantity.

5.1.5. The Contractor(s), in the judgment of the County Debris Management Center is unnecessarily or willfully delaying the performance and completion of the work.

5.1.6. The Contractor(s) refuses to proceed with work when and as directed by the County Debris Management Center.

5.1.7. The Contractor(s) abandons the work.

5.1.8. The Contractor(s) employs subcontract who are on the Federal debarred listing.

6.0 PERFORMANCE SCHEDULE

6.1. Immediately following Contract Award, the apparent responsible bidder(s) will meet with the County Debris Manager to discuss matters of judgment, safety, quality control, coordination, payment, record keeping, and reporting.

6.2. At each vegetative debris reduction site, the Contractor(s) is required to grind a minimum of 200-250 cubic yards per hour per grinder with 4 hours of down time for service per 24 hours. The minimum required reduction/disposal rate shall be achieved no later than the third calendar day after receipt of Notice to Proceed. Liquidated damages shall be assessed at $500.00 per calendar day for any day in which the minimum processing rate is not met, unless non-compliance is due to insufficient debris amounts being delivered to the site.

6.3. All work, including site restoration prior to close-out, shall be completed within 30 calendar days after receiving notice from the County Debris Management Center that the last load of debris has

been delivered, unless the County Debris Manager initiates additions or deletions to the contract by written change orders. Subsequent changes in completion time will be equitably negotiated by both parties pursuant to applicable state and federal law. Liquidated damages shall be assessed at $1,000.00 per calendar day for any time over the maximum allowable time established above.

6.4. Unless directed otherwise by the County Debris Management Center, the Contractor(s) shall conduct volumetric reduction operations 24 hours per day, 7 days per week. Hauling of debris from rights-of-way and public property will be limited to day-light hours, 7 days per week.

7.0 CONTRACTOR(S) PETROLEUM, OIL, LUBRICANT (POL) SPILLS

7.1. The Contractor(s) shall be responsible for reporting to the County Debris Management Center and cleaning up all petroleum, oil, lubricant (POL) spills caused by the Contractor(s)'s operations at no additional cost.

7.2. Immediate containment actions shall be taken as necessary to minimize effect of any spill or leak. Cleanup shall be in accordance with applicable Federal and local laws and regulations.

7.3. Spills other than on-the-site shall be reported to the National Response Center, and the County Debris Management Center immediately following discovery. A written follow-up shall be submitted to the County Debris Management Center not later than 7 days after the initial report. The written report shall be in narrative form, and as a minimum shall include the following:

- Description of the material spilled (including identity, quantity, etc.).
- Determination as to whether or not the amount spilled is EPA/State reportable, and when and to whom it was reported.
- Exact time and location of spill, including description of the area involved.
- Receiving stream or waters.
- Cause of incident and equipment and personnel involved.
- Injuries or property damage.
- Duration of discharge.
- Containment procedures initiated.
- Summary of all communications the Contractor(s) has had with press or other officials.
- Description of cleanup procedures employed or to be employed at the site, including disposal location of spill residue.
- Corrective actions taken to prevent reoccurrence of similar event.

EXHIBIT W

PRICE PROPOSAL FORM

(Exhibit W is strictly a sample and must be reviewed by local legal staff before use)

PRICE PROPOSAL FORM
DISASTER DEBRIS REMOVAL, REDUCTION, AND DISPOSAL
RFP NO

PART A – Volume based pricing for 1,000,000 cubic yard debris disaster

Item/Description	Estimated		Unit Price	Extension
	Quantity	Unit		
1. 0 Debris Removal and Disposal Operations				
1.1 Pickup from Public Property or maintained Rights of Way and hauling to a designated Temporary Debris Staging and Reduction (TDSR) site or Disposal Facility 15 or less miles away (one-way miles). (Trips with one-way miles in excess of 15 miles compensated at the rate quoted in Items 1.2., 1.3 or 1.4).	800,000	CY		
1.2 Pickup from Public Property or maintained Rights of Way and hauling to a designated Temporary Debris Staging and Reduction (TDSR) site or Disposal Facility 16 to 30 miles away (one-way miles). (Trips with one-way miles in excess of 30 miles compensated at the rate quoted in Items 1.3 or 1.4).	200,000	CY		
1.3 Pickup from a Temporary Debris Transfer site and hauling to a designated Disposal Facility 31.0 to 60.0 miles away (one-way miles). Volume reduction will not take place. (Trips with one-way miles in excess of 60 miles compensated at the rate quoted in Item 1.4).	200,000	CY		
1.4 Pickup from a Temporary Debris Transfer site and hauling to a Disposal Facility 61.0 – 120.0 miles away (one-way miles). Volume reduction will not take place.	100,000	CY		

2.0 Removal and Disposal of Stumps and Hazardous Limbs				
2.1 Extract, remove and dispose of the eligible stump and root ball and back filling of the root cavity with compacted soil of trees that are not uprooted and larger than 24 inches in diameter (measured two feet from the ground). Stumps must have more than 50% of their root ball exposed. Stumps placed along maintained Rights of Way by others will be paid under Items 1.1 through 1.4 above. (See NOTE 2 below).	200	Each		
2.2 Removal and disposal of hazardous hanging limbs greater than 2 inches in diameter.	1,000	Each Tree		
3.0Temporary Debris Staging and Reduction Site Operations				
3.1 Temporary Debris Management Site operation, debris acceptance, pile management, and material loading for transport. Price includes construction of inspection towers as specified in the scope of work.	1,000,000	CY		
3.2 Volume reduction of debris through grinding and/or chipping. (See NOTE 3 below)	1,000,000	CY		
3.3 Volume reduction through air curtain incineration. (See NOTE 3 below)	1,000.000	CY		
4.0 Grand Total				

NOTES:

1. Unit Prices, unless otherwise indicated, shall include all labor (operators, laborers, and supervisors), equipment and materials including but not limited to: supplies, equipment maintenance, repairs, repair parts, fuels, lubricants, cellular phones, transportation, traffic control and housing, if required, necessary to accomplish the project. The quantities and distributions are estimated for the purpose of making an award. Locations of sites, debris quantities, destinations, material densities, etc. may differ substantially in an actual disaster.

2. Stumps less than 24 inches in diameter, with attached root balls, will be considered to be normal debris and payment for loading, hauling, and dumping shall be provided under Items 1.1 through 1.4. Removal and disposal of all stumps, regardless of shape, size or weight, that are placed on

the rights-of-way by others (i.e. contractors did not extract them from public property or property of eligible Private Non Profit organization will be at the unit cost rate (Items 1.1 through 1.4) for regular debris using the Stump Conversion Table shown below which was develop by FEMA.

3. To determine the cubic yards for grinding or burning stumps with root balls greater than 24 inches in diameter, the CONTRACTOR shall count the number of stumps and based on their diameter, use the table below to convert to cubic yards. This calculated volume related to stumps greater than 24 inches in diameter can be added to the volume of other debris for purposes of reduction and payment under Items 3.2 (Grinding) and 3.3 (Incineration).

STUMP CONVERSION TABLE

Stump Diameter (Inches)	Cubic Yards	Stump Diameter (Inches	Cubic Yards	Stump Diameter (Inches	Cubic Yards
6	0.3	33	7.8	60	25.8
7	0.4	34	8.3	61	26.7
8	0.5	35	8.8	62	27.6
9	0.6	36	9.3	63	28.4
10	0.7	37	9.8	64	29.4
11	0.9	38	10.3	65	30.3
12	1	39	10.9	66	31.2
13	1.2	40	11.5	67	32.2
14	1.4	41	12	68	33.1
15	1.6	42	12.6	69	34.1
16	1.8	43	13.3	70	35.1
17	2.1	44	13.9	71	36.1
18	2.3	45	14.5	72	37.2
19	2.6	46	15.2	73	38.2
20	2.9	47	15.8	74	39.2
21	3.2	48	16.5	75	40.3
22	3.5	49	17.2	76	41.4
23	3.8	50	17.9	77	42.5
24	4.1	51	18.6	78	43.6
25	4.5	52	19.4	79	44.7
26	4.8	53	20.1	80	45.9
27	5.2	54	20.9	81	47
28	5.6	55	21.7	82	48.2
29	6	56	22.5	83	49.4
30	6.5	57	23.3	84	50.6
31	6.9	58	24.1		
32	7.3	59	24.9		

Part B – Hourly Prices

For Temporary Debris Staging and Reduction Site Set-up and Closure and Debris Clearance for First 70 Hours			
Equipment and Labor Rates			
Equipment Type	Hourly Equipment Rate	Hourly Labor Rate	Total Hourly Rate
Air Curtain Pit Burner			
Air Curtain Refractory Incinerator			
Bobcat Loader			
Bucket Truck w/Operator			
Chipper/Mulcher (8" throat)			
Chipper/Mulcher (12" throat)			
Crash Truck w/Impact Attenuator			
Crew Foreman w/Cell Phone and Pickup			
Dozer, Tracked, D5 or similar			
Dozer, Tracked, D6 or similar			
Dozer, Tracked, D7 or similar			
Dozer, Tracked, D8 or similar			
Dump Truck, 18 CY-20 CY			
Dump Truck, 21 CY-30 CY			
Generator and Lighting			
Grader w/12' Blade			
Hydraulic Excavator, 1.5 CY			
Hydraulic Excavator, 2.5 CY			
Knuckleboom Loader			
Laborer w/Chain Saw			
Laborer w/small tools, traffic control, flag person			
Lowboy Trailer w/Tractor			
Log Skidder			
Mobile Crane (Adequate for hanging limbs/leaning trees)			
Operations Manager w/Cell Phone and Pickup			
Pickup Truck, .5 Ton			

For Temporary Debris Staging and Reduction Site Set-up and Closure and Debris Clearance for Access			
Equipment and Labor Rates			
Equipment Type	**Hourly Equipment Rate**	**Hourly Labor Rate**	**Total Hourly Rate**
Soil Compactor 80 HP			
Soil Compactor 81 HP+			
Soil Compactor, Towed Unit			
Stump Grinder 30" diameter or less			
Stump Grinder greater than 30" diameter			
Traffic Control, Temporary Single Lane Closure			
Traffic Control, Temporary Road Closure			
Tree Climber s/Chainsaw			
Truck, Flatbed			
Tub Grinder, 800 to 1,000 HP			
Waste Collection Rear Loader Truck			
Water Truck			
Wheel Loader, 2.5 CY, 950 or similar			
Wheel Loader, 3.5 – 4.0 CY, 966 or similar			
Wheel Loader, 4.5 CY, 980 or similar			
Wheel Loader-Backhoe, 1.0 – 1.5 CY			
Other – Please List			

Part B unit prices for equipment such as: air curtain burners/incinerators, chipper/mulchers and tub grinders do not pertain to debris management site operations, which are included under Part A.

Part B unit prices for Traffic Control do not pertain to debris collection and removal operations from public property and public maintained Rights-of-Way, which are included under Part A.

EXHIBIT X

REQUEST FOR LETTERS OF INTEREST
DEBRIS LOADING SITE MONITORS, DEBRIS REDUCTION/DISPOSAL SITE MONITORS, AND ROVING DEBRIS MONITORS

Date:

Subject: Request for Letters of Interest for Disaster Debris Monitoring

The _____invites qualified firms to submit Letters of Interest and Statements of Qualification and Experience for consideration to provide services on the following project:

DISASTER DEBRIS MONITORING

The scope of services shall include, but not be limited to the following:

The _____ seeks qualified firm(s) to assist in monitoring disaster debris collection and disposal operations on behalf of the _____ ensuring compliance with federal requirements and local debris management plans as related to contractor oversight, load ticket preparation and issuing, report preparation and project administration.

The Contractor shall provide personnel to monitor at least _____ (___) debris loading sites and up to _____ (__) personnel to monitor debris reduction/disposal sites located in _____ County/City. Each site will operate approximately 12-14 hours per day, 7 days per week. The exact number and location of sites will be determined by _____. The Contractor shall also provide at least _____ (___) roving debris monitors.

Contractor shall provide all management, supervision, labor, transportation, and equipment necessary to initiate load tickets at debris loading sites, estimate the volume of debris (in cubic yards, or other standard unit of measurement as determined by _____) being delivered by trucks to each debris reduction/disposal site and support the operations of the roving debris monitors .

- Scope of Work for Debris Loading Site Monitors and Debris Reduction/Disposal Site Monitors: See Attachment 1.
- Scope of Work for Debris Roving debris monitors: See Attachment 2.
- Sample Service Agreement

The Letter of Interest (LOI) should be limited to 8 pages and address the following:

- Office location responsible for this project.
- Project manager and key personnel.
- Evidence of satisfactory completion of disaster debris monitoring in the past five (5) years at similar jurisdictions. Narrative should include scope, project budget, and operational duration. Include the firm's contract manager and phone number and e-mail address (if available) for each disaster response or project. Summarized information on each response should include:

  Type of disaster - hurricane, tropical storm, tornado, etc.
  Type of jurisdiction - city, county, district or combinations,
  Collection monitoring assignments,
  Temporary debris management site monitoring assignments,
  Final disposal oversight functions,

FEMA reimbursement actions and issue resolution

- Knowledge and experience with _____'s solid waste regulations and the disaster debris management policies.
- List of references.
- Subconsultant(s) that may be used on this project.
- Three (3) year claims/litigation history and status.

Any material received that is not requested may be discarded. Bindery (except removable fasteners) in any form is not preferred, nor are specially prepared covers, dividers, tables of content, organizational charts, reference letters, etc.

The evaluations made as a result of reviewing the above information from each firm will be a part of the basis for developing a shortlist of firms who may be scheduled to make presentations before the Selection/Negotiation Committee, and may serve as continuing information for the final ranking.

SELECTION/NEGOTIATION PROCESS

A Selection/Negotiation Committee (S/NC) has been appointed by the _____, and will be responsible for recommending the most qualified firm(s) with whom to begin negotiation of an agreement for this project. It is anticipated, but not required, that the process for this procurement proceed in the following manner:

REVIEW OF WRITTEN SUBMITTALS

Each firm should submit documents that provide evidence of capability to provide the services required for this project. Each short listed firm will be contacted via telephone and follow-up letter to advise of date and time for presentations/interviews.

The _____ will not consider oral/written communications, prior to the conclusion of short listing firms, which vary the terms of the submittals.

PRESENTATIONS/INTERVIEWS

The S/NC may provide a list of subject matter for discussion. Each short listed firm will be given equal time to make presentations, but the question-and-answer time may vary. The S/NC may ask each short listed firm to provide prices in a sealed envelope at time of presentation. See Attachment 3 -Fee Schedule for Debris Loading Site Monitors, Debris Reduction/Disposal Site Monitors and Debris Roving debris monitors.

Recommendation to begin negotiations with the selected firm will be made by the S/NC and reported to the appointing authority.

All inquiries are to be directed to _____ at _____.

Interested firms should submit four (4) total copies of materials which indicate interest and qualifications to:

Submittals **MUST BE RECEIVED** by the _____ no later than 5:00 pm on _____, 200_. Electronically transmitted, and late or misdirected submittals will not be accepted.

Signature_____

DEBRIS LOADING SITE MONITORS, DEBRIS REDUCTION/DISPOSAL SITE MONITORS, AND ROVING DEBRIS MONITORS

_____ COUNTY, _____

THIS AGREEMENT, made and entered into this _____ day of _____, 200__, by and between _____County, _____, party of the first part; and _____ (the "Contractor"), party of the second part;

W I T N E S S E T H:

For the purpose and subject to the terms and conditions hereinafter set forth, the County hereby contracts for the services of the Contractor, and the Contractor agrees to provide the services to the County in accordance with the terms of this Agreement.

I. SERVICES TO BE PROVIDED

The services to be performed by the Contractor shall be as follows:

- **ATTACHMENT 1: Debris Loading Site and Debris Reduction/Disposal Site Monitors**
- **ATTACHMENT 2: Roving Debris Monitors**

II. TERM

The services of the Contractor shall begin not later than 48 hours after Notice to Proceed, and unless sooner terminated by mutual consent or as hereinafter provided, shall be provided until _____; provided that Contractor shall have the right to terminate this Agreement for services upon thirty (30) days' notice in writing to the County, and the County shall have the right to terminate this Agreement upon five (5) days' notice in writing to the Contractor. This Agreement is subject to the availability of funds provision of section XI. Extension or renewal clause i.e. 3 –one year options.

III. PAYMENT

As full compensation for the Contractor's services, the County agrees to pay the Contractor the sum of _____, payable in installments based on the **Fee Schedule at Attachment 3**. Total payments under this contract are not to exceed _____ during fiscal year _____.

The Contractor shall bill the County for services rendered during the preceding thirty (30) days. The County shall pay all undisputed portions of such bills within Thirty (30) days, provided all elements of this Agreement are satisfactorily met.

IV. RELATIONSHIP OF PARTIES

The Contractor shall operate as an independent contractor, and the County shall not be responsible for any of the Contractor's acts or omissions. The Contractor shall not be treated as an employee with respect to the services performed hereunder for federal or state tax, unemployment or workers' compensation purposes. The Contractor understands that neither federal, nor state, nor payroll tax of any kind shall be withheld or paid by the County on behalf of the Contractor or the employees of

the Contractor. The Contractor further agrees that the Contractor is fully responsible for the payment of any and all taxes arising from the payment of monies under this Agreement. The Contractor shall not be treated as an employee with respect to the services performed hereunder for purposes of eligibility for, or participation in, any employee pension, health, or other fringe benefit plan of the County. The County shall not be liable to the Contractor for any expenses paid or incurred by the Contractor unless otherwise agreed in writing. The Contractor shall supply, at its sole expense, all equipment, tools, materials, and supplies required to provide the contracted services unless otherwise agreed in writing. The Contractor shall comply with all federal, state and local laws regarding business permits, certificates and licenses that may be required to carry out the services to be performed under this Agreement. The Contractor shall insure that all personnel engaged in work under this Agreement shall be fully qualified and shall be authorized under state and local law to perform the services under this Agreement.

V. INSURANCE

The Contractor shall obtain, at his sole expense, all insurance required in the following paragraphs and shall not commence work until such insurance is in effect and certification thereof has been received by _____.

Workers' Compensation Insurance, with limits for Coverage A Statutory-State of _____ and Coverage B Employers Liability $500,000 each accident, disease policy limit and disease Each Employee.

Commercial General Liability - Combined single limits of no less than $1,000,000 each occurrence and $2,000,000 aggregate. This insurance shall include Comprehensive Broad Form Coverage including contractual liability.

Commercial Automobile Liability, with limits of no less than $500,000 Combined Single Limit for bodily injury and property damage. Evidence of commercial automobile coverage is only necessary if vehicles are used in the provision of services under this Agreement and/or are brought on a _____ County site.

All insurance companies must be licensed in _____ and be acceptable to the County's Risk Manager. Insurance Policies, except Workers' Compensation, shall be endorsed (1) to show _____ County as additional insured, as their interests may appear and (2) to amend cancellation notice to 30 days, pursuant to _____ law. Certificates of insurance shall be signed by a licensed _____ agent and be amended to show "thirty (30) days' notice of change or cancellation will be given to the _____ County Risk Manager by certified mail."

If an "ACCORD" Insurance Certificate is used, the words "endeavor to" and "but failure to mail such notice shall impose no obligation or liability of any kind upon the company" in the "cancellation" paragraph of the form shall be deleted. Copies or originals of correspondence, certificates, endorsements or other items pertaining to insurance shall be sent to:

Name: _____
Address: _____

If the Contractor does not meet the insurance requirements of the specifications, alternate insurance coverage satisfactory to _____ County may be considered.

VI. INDEMNIFICATION

The Contractor agrees to defend, indemnify, and hold harmless _____ County from all loss, liability, claims or expense (including reasonable attorney's fees) arising from bodily injury, including death, to any person or persons or property damage caused in whole or in part by the negligence or misconduct of the Contractor or his/her subcontractors, agents and employees, except to the extent

same are caused by the negligence or willful misconduct of _____County. It is the intent of this section to require the Contractor to indemnify _____ County to the extent permitted under (leave STATE blank for template purposes) law.

VII. NON-ASSIGNMENT

The Contractor shall not assign all or any portion of this Agreement, including rights to payments, to any other party without the prior written consent of the County.

VIII. ENTIRE AGREEMENT

The Contractor and the County agree that this document constitutes the entire agreement between the two parties and may only be modified by a written mutual agreement signed by the parties. Modifications may be evidenced by telefacsimile signatures. Unless and until further modified, this agreement shall consist of this document and the following attachments or addenda:

IX. GOVERNING LAW

Both parties agree that this Agreement shall be governed by the laws of the State of _____.

X. WAIVER

Failure of the County to enforce, at any time, any of the provisions of this Agreement, or to request at any time performance by Contractor of any of the provisions hereof, shall in no way be construed to be a waiver of such provisions, nor in any way affect the validity of this Agreement or any part thereof, or the right of the County to enforce each and every provision.

XI. NON-APPROPRIATION

If this agreement requires performance and appropriations for payment for services in future fiscal years, the validity of this contract is based upon the availability of public funding under the statutes delegating the County its powers. In the event that the County's enabling legislation is changed so as to prohibit the activities contemplated by this contract or should public funds become unavailable and not appropriated for the continuation of this contract, the parties' obligations hereunder will automatically expire without penalty ten (10) days after written notice to the Contractor of such occurrence. It is understood that the County will not exercise this provision for its convenience, but only as an emergency fiscal measure.

IN WITNESS WHEREOF, the County and the Contractor have set their hands as of the day and year first above written.

_____ COUNTY, _____

By: _____

Date:_____

CONTRACTOR

By: _____

Date: _____

(Mailing Address)

_____

_____

_____

Federal Tax ID#_____

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act.

_____

FINANCE OFFICER

ATTACHMENT 1

SCOPE OF WORK
FOR
DEBRIS LOADING SITE MONITORS AND REDUCTION/DISPOSAL SITE MONITORS

1.0 GENERAL

1.1 The _____County _____ requires debris loading site monitors to initiate load tickets and reduction/disposal site monitors to verify the volume of debris delivered to either temporary debris management sites or permanent disposal or recycling facilities as determined by County/City Debris Manager.

2.0 LOADING SITE MONITORING SERVICES

2.1 Contractor shall provide on site personnel to monitor debris removal operations at up to _____ (__) debris loading sites located throughout _____ County. Each loading site will operate approximately 12 -14 hours per day, 7 days per week. Exact number and location of loading sites will be determined by _____ in coordination with the debris removal Contractor.

- **Urban Area Monitoring Sites:** Contractor will have load site monitors stationed at designated "Choke Points" chosen by the debris removal Contractor and coordinated with the _____ representative the day before. The "Choke Points" must be kept to a minimum and located at a safe site along the primary haul road to the designated reduction/disposal site. A minimum of _____ load site monitors will be stationed at the "Choke Point" and each truck driver will be given a load ticket that validates where the material originated and that it is eligible for pickup. The load ticket must contain either a street address or the nearest intersection to be valid. The volume of debris hauled will be estimated at the reduction/disposal site by the Disposal Site Monitor. The estimated volume will be recorded on the load ticket and a copy of the load ticket given to the truck driver.
- **Rural Area Monitoring Sites:** Contractor will have load site monitors stationed at each rural loading site being operated by the debris removal and disposal Contractor. Rural area loading sites must be identified by the Contractor and coordinated with the _____ representative the day before. A minimum of _____ load site monitors will be stationed at the actual loading site and will give each truck driver a load ticket that validates where the material originated and that it is eligible for pickup. The load ticket must contain either a street address or the nearest intersection to be valid. The volume of debris hauled will be estimated at the disposal site by the Disposal Site Monitor. The estimated volume will be recorded on the load ticket and a copy of the load ticket given to the truck driver.

2.2 Contractor shall provide all management, supervision, labor, transportation, and equipment necessary to initiate debris load tickets to document the removal of eligible debris from Public Access Roads within _____County.

2.3 Contractor must provide reduction/disposal site monitors with personnel protective equipment to include but not limited to eye protection, hearing protection, work shoes, safety vest, hard hats, and wet and cold weather clothing.

2.4 Contractor shall provide ___ loading site monitors per site per day for a 12-14 hour shift. Contractor must provide personnel with transportation, mobile communications, and all logistic support.

2.5 All loading site monitors must be a minimum of 18 years of age and have a valid driver's license.

2.6 All loading site monitors site monitors must have experience in at least one of the following:

Entry level engineer
Construction inspector
Entry level surveyor
Solid waste collections
Previous monitoring experience
National debris monitoring certification

2.7 Supervisors and all identified loading site monitors must attend a ½ day debris monitor training session to be conducted at a location specified by the _____ Project Officer before the start of the first shift.

3.0 DEBRIS REDUCTION/DISPOSAL SITE MONITORING SERVICES

3.1 Contractor must provide reduction/disposal site monitors with personnel protective equipment to include but not limited to eye protection, hearing protection, work boots, safety vest, hard hats, and wet and cold weather clothing. Communication equipment to correspond to dispatch, field monitors, etc.

3.2 Contractor must provide reduction/disposal site monitors with transportation to and from the debris reduction site and logistic support.

3.3 Contractor must provide a portable non-electric heating unit and warm-up tent (for cold weather operations only) for each on-site inspection tower.

3.4 Monitors must be capable of spending shifts in an outside environment and be able to climb a staircase ladder of 10 feet high.

3.5 Monitors must be a minimum of 18 years of age and have a valid driver's license.

3.6. Monitors must have experience in at least one of the following:

Entry level engineer
Construction inspector
Entry level surveyor
Solid waste site operations
Land clearing operations
Previous monitoring experience
National debris monitoring certification

3.7 Supervisors and all identified reduction/disposal site monitors must attend a ½ day debris monitor training session to be conducted at a location specified by the _____ Project Officer before the start of the first shift.

4.0 OPERATIONAL REQUIREMENTS

4.1 General Operating Procedures: The County has hired a Contractor (s) to remove and transport disaster debris from the right-of-way of Public Access Roads within _____ County to designated debris reduction/disposal sites. Each load of eligible debris will be tracked using a multi-page load ticket similar to the one shown in Figure 1 below.

Debris Load Ticket County/Municipality Name: _____	
Ticket Number:	
Contractor's Name:	
Driver's Name:	
Truck / Trailer Number:	
Measured Bed Capacity in Cubic Yards:	
Departure Date:	Departure Time:
Pickup Site Location (Must be street address or nearest intersection): DOT System Road: _____ Public Access Road:_____ Federal Highway:_____ Other:_____	
Type of Debris:	
	Burnable (Clean Woody Debris)
	Non-Burnable (Treated Lumber, Metals, C&D)
	Mixed (Burnable and Non-Burnable)
	Other (Define)
Printed Name of Loading Site Monitor: Signature:	
Debris Disposal Site Location: Arrival Time:	
Estimated Volume of Debris on Truck: Cubic Yards	
Printed Name of Disposal Site Monitor: Signature:	
Remarks:	

Figure 1

4.2 Load Ticket Section 1:
The debris load site monitor will be responsible for completing the information shown in Figure 2 below. The load site monitor will retain one copy of the load ticket and give the remaining copies to the truck driver.

Debris Load Ticket County/Municipality Name: _____	
Ticket Number:	
Contractor's Name:	
Driver's Name:	
Truck / Trailer Number:	
Measured Bed Capacity in Cubic Yards:	
Departure Date:	Departure Time:
Pickup Site Location (Must be street address or nearest intersection): DOT System Road: _____ Public Access Road:_____ Federal Highway:_____ Other:_____	
Type of Debris:	
	Burnable (Clean Woody Debris)
	Non-Burnable (Treated Lumber, Metals, C&D)
	Mixed (Burnable and Non-Burnable)
	Other (Define)
Printed Name of Loading Site Monitor: Signature:	

Figure 2

4.3 Load Ticket Section 2:

The reduction/disposal site monitor is responsible for completing the remaining sections of the load ticket. The reduction/disposal site monitor will verify that all required information is completed by the loading site monitor. After verifying that Section 1 is complete, the monitor in the inspection tower will make an estimate of the volume of debris contained in the truck or trailer in cubic yards. Each truck or trailer will have the measured size in cubic yards recorded on the side of the truck or trailer. That number should be validated with the volume stated in Section 1.

Debris Disposal Site Location: Arrival Time:
Estimated Volume of Debris on Truck: Cubic Yards
Printed Name of Disposal Site Monitor: Signature:
Remarks:

Figure 3

The reduction/disposal site monitor will indicate the name of the debris reduction site, arrival time of the truck, and estimate the volume of material contained within the bed of the truck or trailer. The estimated volume will be recorded on the load ticket in the Estimated Debris Volume block and the debris reduction/disposal site monitor will print his/her name and sign in the designated block. The reduction/disposal site monitor will retain one copy of the load ticket and give the remaining copies to the truck driver. The reduction/disposal site monitor's copy will be turned into their supervisor at the end of each day. These are controlled forms and cannot be lost since they will be used to verify the amount of money paid to the debris reduction/disposal site Contractor and to the debris hauling Contractor.

5.0 REPORTING

5.1 The loading site monitor will turn in their copy of the load ticket to their supervisor at the end of each shift. The Contractor's supervisor will ensure that the load tickets and log are submitted to the _____ Project Officer not later than 10am the following day.

5.2 The loading site monitors will also maintain a log that contains the following information:

a) Debris "Choke Point" or loading site location
b) Loading Site Monitors' Name
c) Supervisor's Name
d) Number of Load Tickets issued during the shift
e) Starting load ticket number _____ Ending load ticket number_____.
f) Any problems encountered or anticipated

5.3 The reduction/disposal site monitor will turn in their copy of the load ticket to their supervisor at the end of each shift. The Contractor's supervisor will ensure that the load tickets and log are submitted to the _____ Project Officer not later than 10am the following day.

5.4 The reduction/disposal site monitors will maintain a log that contains the following information:

a) Debris reduction/disposal site location
b) Reduction/Disposal Site Monitors' Name
c) Supervisor's Name
d) Truck/Trailer number and volume of debris hauled into the site.
e) Cumulative total of debris delivered at the site during the shift.
f) Any problems encountered or anticipated

5.5 The Contractor will provide reduction/disposal site monitors with a means of communications (cell phone, radio, etc.) to contact their supervisor or the _____ Project Officer in the event of any problems that occur. Monitors should not argue with truck drivers or other Contractor personnel. They are advised to wait until a supervisor arrives on site to resolve the problem.

6.0 SAFETY

6.1 The Contractor's loading site monitors and reduction/disposal site monitors must wear required safety equipment whenever on the site. The following are mandatory: Hard Hat, Reflective Vest, Work Boots, Long Pants, Appropriate Cold and Rainy Weather Clothing, Eye and Hearing Protection.

6.2 The Contractor will maintain a telephonic contact list at each loading site and reduction/disposal site of the Contractor's supervisor, _____ Project Officer, and nearest fire, police, and emergency medical facilities.

7.0 OTHER CONSIDERATIONS

7.1 The Contractor shall supervise and direct the work, using qualified labor and proper equipment for all tasks. Safety of the Contractor's personnel and equipment is the responsibility of the Contractor. Additionally, the Contractor shall pay for all materials, personnel, taxes, and fees necessary to perform under the terms of this contract.

7.2 The Contractor must be duly licensed in accordance with _____ State statutory and regulatory requirements to perform the work. The Contractor shall obtain all permits necessary to complete the work. The Contractor shall be responsible for determining what permits are necessary to perform under the contract. Copies of all permits shall be submitted to the _____ Project Officer before commencing work.

7.3 The Contractor shall be responsible for correcting any notices of violations issued as a result of the Contractors or any subcontractors' actions or operations during the performance of this contract. Corrections for any such violations shall be at no additional cost to the _____.

7.4 The Contractor shall be responsible for paying any and all costs associated with violations of law or regulation relative to his/her activities. Such costs might include but are not limited to: site cleanup and/or remediation; fines, administrative or civil penalties; and third party claims imposed on _____ by any regulatory agency or by any third party as a result of noncompliance with Federal, State, or local environmental laws and regulations or nuisance statutes by Contractor, his/her Subcontractors, or any other persons, corporations or legal entities retained by the Contractor under this contract.

7.5 Meetings. The Contractor must attend any and all meetings required by _____ to evaluate the performance of all monitors.

7.6 Quality Assurance. The Contractor must provide sufficient personnel and management to assure the policies and procedures of work meets the requirements of this contract. The work will be closely monitored by _____.

8.0 PAYMENT

8.1 Project Manager. The unit price must be at the Contractor's standard billing rate

8.1 Supervisor. The unit price must be at Contractor's standard billing rate

8.2 Loading Site Monitor. The unit price must be at Contractor's standard billing rate

SCOPE OF WORK
FOR
ROVING DEBRIS MONITORS

1.0 GENERAL

1.1 The _____ requires roving debris monitors to verify that only eligible debris is being removed from designated public access roads within assigned debris pickup zones in _____ County.

2.0 ROVING DEBRIS MONITOR SERVICES

2.1 Contractor shall provide _____ (___) roving debris monitors. At least one monitor will be assigned a Debris Pickup Zone to monitor and verify eligible debris removal from designated Public Access Roads within the Debris Pickup Zone. The roving monitor(s) must be prepared to operate approximately 8 to 10 hours per day, 7 days per week.

2.2 Contractor must provide roving debris monitors with transportation (only compact rental cars authorized) and mobile communications equipment necessary to remain in contact with dispatch, supervisor and towers at all times..

2.3 All roving site monitors must be a minimum of 18 years of age and have a valid driver's license.

2.4. All monitors must have experience in at least one of the following:

Entry level engineer
Construction inspector
Entry level surveyor
Solid waste collections
Previous monitoring experience
National debris monitoring certification

2.5 Supervisors and all identified roving debris monitors must attend a ½ day debris monitor training session to be conducted at a location specified by the _____ Project Officer before the start of the first shift.

2.6 Contractor shall provide all management, supervision, labor, transportation, and equipment necessary to monitor the operations of the debris removal and disposal Contractor.

2.7 Contractor must provide monitors with personnel protective equipment to include but not limited to eye protection, hearing protection, work boots, safety vest, hard hats, and wet and cold weather clothing.

2.8 Roving debris monitors must be capable of spending shifts in an outside environment and be able to climb a staircase ladder of 10 feet high.

3.0 OPERATIONAL REQUIREMENTS

3.1 The roving monitor(s) will provide oversight of all debris removal and disposal operations provided by the debris removal and disposal contractor.

3.2 The roving monitor(s) will be the "eyes and ears" in the field for the County Debris Manager. Therefore their observations and reports must be backed up with digital photographs when ever possible.

3.3 The roving monitor(s) are expected to make multiple visits to all loading sites and disposal sites on a random daily basis.

4.0 REPORTING

4.1 The Roving Monitor(s) will be responsible for completing the Debris Removal/Loading Site Monitoring Checklist at Attachment 4. Report will be submitted to immediate supervisor on a daily basis.

4.2 The Roving Monitor(s) will report any serious or safety related discrepancies observed to his/her supervisor. Supervisor will keep _____ Project Officer informed of situations that impact on the execution of the debris removal contract.

4.3 The supervisor will collect all written reports and provide them to the _____ Project Officer by 10:00 am the following day.

4.4 The Contractor will provide site monitors with a means of communications (cell phone, radio, etc.) to contact their supervisor or the _____Project Officer in the event of any problems that occur at the inspection site. Monitors should not argue with truck drivers or other Contractor personnel. Advise them to wait until a supervisor arrives on site to resolve the problem.

5.0 SAFETY

5.1 The Contractor will ensure that roving debris monitors adhere to the debris reduction site Contractor's safety requirement.

5.2 The Contractor's roving debris monitors must wear their required safety equipment whenever on the site. The following are mandatory: Hard Hat, Reflective Vest, Steel Toe Shoes, Long Pants, Appropriate Cold and Rainy Weather Clothing, Eye and Hearing Protection.

5.3 Each roving monitor will maintain a telephonic contact list of all of the Contractor's supervisors, _____ Project Officer, and nearest fire, police, and emergency medical facilities for each of their assigned debris zones.

6.0 OTHER CONSIDERATIONS

6.1 The Contractor shall supervise and direct the work, using qualified labor and proper equipment for all tasks. Safety of the Contractor's personnel and equipment is the responsibility of the Contractor. Additionally, the Contractor shall pay for all materials, personnel, taxes, and fees necessary to perform under the terms of this contract.

6.2 The Contractor must be duly licensed in accordance with _____ State statutory and regulatory requirements to perform the work. The Contractor shall obtain all permits necessary to complete the work. The Contractor shall be responsible for determining what permits are necessary to perform under the contract. Copies of all permits shall be submitted to the _____ Project Officer.

6.3 The Contractor shall be responsible for correcting any notices of violations issued as a result of the Contractors or any subcontractors' actions or operations during the performance of this contract. Corrections for any such violations shall be at no additional cost to the _____.

6.4 The Contractor shall be responsible for paying any and all costs associated with violations of law or regulation relative to his/her activities. Such costs might include but are not limited to: site cleanup and/or remediation; fines, administrative or civil penalties; and third party claims imposed on _____ by any regulatory agency or by any third party as a result of noncompliance with Federal, State, or local environmental laws and regulations or nuisance statutes by Contractor, his/her Subcontractors, or any other persons, corporations or legal entities retained by the Contractor under this contract.

6.5 Meetings. The Contractor must attend any and all meetings required by the_____ to evaluate the operation of the debris reduction site.

6.6 Quality Assurance. The Contractor must provide sufficient personnel and management to assure the policies and procedures of work meets the requirements of this contract. The work will be closely monitored by _____.

7.0 PAYMENT

7.1 Project Manager. The unit price must be at Contractor's standard billing rate.

7.2 Supervisor. The unit price must be at Contractor's standard billing rate.

7.3 Roving Monitor. The unit price must be at Contractor's standard billing rate

7.4 Rental Cars: Will be reimbursed based on number and length of time used for rental cars by the roving debris monitors only. Rental cars must be at compact car price. Provide receipts for each rental car used.

7.5 Fuel: Will be reimbursed based on amount of fuel used by rental cars. Must provide receipts for all fuel used.

DEBRIS LOADING SITE MONITORS, DEBRIS REDUCTION/DISPOSAL SITE MONITORS AND ROVING DEBRIS MONITORS

FEE SCHEDULE

ITEM	DESCRIPTION	VOLUME	UNIT OF ISSUE	UNIT PRICE
1.	Project Manager	each	Standard hourly rate	$
2.	Debris Monitor Supervisor	each	Standard hourly rate	$
3.	Loading Site Monitor	each	Standard hourly rate	$
4.	Roving Monitor	each	Standard hourly rate	$
5.	Reduction Site Monitor	each	Standard hourly rate	$
6.	Holiday/Over Time	each	Hourly overtime rate	$
7.	Other Direct Costs for Roving debris monitors Only	Rental Car: (Will be reimbursed based on number and length of time used for rental cars. Rental car must be at compact car price. Must provide receipts for each rental car used). Fuel: (Will be reimbursed based on amount of fuel used by rental cars. Must provide receipts for all fuel used).		

CONTRACTOR

By: _____

Date: _____

(Mailing Address)

_____

_____

_____

_____

Federal Tax ID#:_____

The following documents must be provided along with the Fee Schedule:

- Project approach.
- Past experience monitoring field operations.
- List of references.
- Certificates of insurance as required in paragraph V.
- List of company officials.
- Additional services.

EXHIBIT Y

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) DEBRIS MANAGEMENT POLICIES AND GUIDELINES

TABLE OF CONTENTS

This Annex contains Federal Emergency Management Agency (FEMA) policies and guidance. It is strongly recommended that the following FEMA web site be consulted to ensure that any new, changes, or deletions in policy or guidance are up to date.

FEMA web site: http://www.fema.gov/government/grant/pa/9500toc.shtm

POLICY NUMBER 9523.4

DEMOLITION OF PRIVATE AND PUBLIC FACILITIES

1. Date Published: November 9, 1999

2. Response and Recovery Policy Number: 9523.4

3. Title: Demolition of Private and Public Facilities

4. Purpose: This policy provides guidance in determining the eligibility of structures for demolition under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, P.L. 93-288 as amended (Stafford Act).

5. Scope and Audience: This policy is intended to guide Federal Emergency Management Agency (FEMA) personnel responsible in making eligibility determinations for the Public Assistance grant program. The provisions of this policy relating specifically to Section 404 Hazard Mitigation buyouts and relocations are a formalization, continuation and refinement of the concept contained in the 1995 policy memorandum referenced in Paragraph 9. The other provisions of this policy are unchanged from the Interim policy issued on September 14, 1999.

6. Background: This policy applies to the exercise of authorities for emergency work and permanent recovery. Recent disasters highlighted the lack of common understanding of the appropriate application of the authorities of Sections 403 and 407 of the Stafford Act. This policy supersedes Interim Policy #9523.4 issued on September 13, 1999 and incorporates provisions for the application of emergency authorities to Section 404 Hazard Mitigation buyout and relocation projects.

   FEMA sometimes is requested to pay for the demolition of public and private structures in the aftermath of declared disasters. The most frequent use of demolition authority is to use Section 403 of the Stafford Act to fund the demolition of unsafe structures that endanger the public. Section 406 of the law, which funds the permanent repair of eligible structures, also has been used to fund demolition when demolition has been part of funding of a FEMA-approved Section 406 project. Section 407 of the law may be used to clear debris and wreckage resulting from a major disaster when it is determined to be in the public interest.

7. Policy:
   1. Insurance. When demolition is covered by an insurance policy, the insurance proceeds must be used as the first source of funding.
   2. Special Considerations. Historic and environmental requirements must be addressed unless otherwise exempted. The following provides general guidance.

Stafford Act Reference	National Environmental Policy Act	Other Federal Laws (National Historical Preservation Act, Endangered Species, Clean Water Act), Regulations, EO's
Section 403 and 407	Not required (statutorily excluded; see Section 316 of the Stafford Act)	Required (some laws have special procedures in emergency circumstances)
Section 406	Depends on Associated Eligible Action 1. Not required with repair substantially to pre-disaster condition project. Statutorily excluded; see Section 316 of the Stafford Act. 2. Required when determined as independent from a repair to pre-disaster condition project. 3. Required with improved or alternate projects.	Required

1. Basic Eligibility for Demolition. In order to be eligible for demolition and debris removal, an eligible applicant must incur an eligible expense. Upon meeting the above requirements, Public Assistance Program funds may be used for demolition and debris removal.
    1. Section 403 Funding.
        1. Publicly-owned and eligible Private Nonprofit (PNP) structures. Demolition and removal of debris is eligible for publicly-owned structures and the eligible structures of eligible PNP organizations when:
            - the structures were damaged by the disaster, and
            - the structures are determined to be unsafe and pose an immediate danger to the public, and
            - the work is completed within the completion deadlines outlined in 44CFR 206.204 for emergency work.
        2. Privately-owned damaged structures.
            - Privately-owned damaged structures may be eligible for Public Assistance grant funding for demolition (and the removal of debris from the demolition) if they meet the criteria in the three bullets contained in Paragraph 7.C.1.a. and liability and legal permission requirements are met.
            - Generally, the removal of the debris from private property is not an eligible cost unless the disaster caused very severe and widespread damage and the removal of the debris is necessary: to eliminate an immediate threat to life, public health and safety; to eliminate immediate threats of significant damage to improved

public or private property; or to ensure the economic recovery of the affected community to the benefit of the community-at-large.
        - Except in very unusual circumstances, such as erosion under slabs on a hillside, slabs or foundations do not constitute debris or wreckage, nor do they present a health or safety hazard to the general public. Broken slabs, or slabs incapable of supporting a new structure, typically do not constitute a public health or safety hazard. Slabs removed primarily for reconstruction purposes are not eligible for removal as disaster-related debris.
        - Individuals and private organizations (except for eligible PNPs with documentation of their efforts on property for which they are responsible) will not be reimbursed for their efforts on their own properties.
    3. Debris removal using the economic recovery criterion normally is restricted to the removal of disaster-related debris from large commercial areas to expedite restoration of the economic viability of the affected community.
    4. To address current health and safety requirements, the following building demolition costs are eligible: capping wells, pumping and capping septic tanks, and filling in basements and swimming pools. The removal or covering of pads and driveways is not considered part of the emergency demolition of structures.
    5. Structures condemned as safety hazards before the disaster are not eligible for demolition and resulting debris removal under Public Assistance grant authority.
    6. Habitable (but not yet damaged) structures are not eligible for demolition under Public Assistance grant authority even when they are in serious danger of total destruction (e.g., on a failing slope).
2. Section 407 Funding.
    1. This authority may be used to fund removal of debris and wreckage caused by a major disaster when the Director, FEMA, determines that the removal would be in the public interest.
    2. Generally, the removal of debris is in the public interest only when it is necessary to:
        - eliminate immediate threats to life, public health, and safety, or
        - eliminate immediate threats of significant damage to improved public or private property, or
        - ensure economic recovery of the affected community to the benefit of the community at large. The use of this criterion normally is restricted to the removal of disaster-related debris from large commercial areas to expedite restoration of the economic viability of the affected community.
        -
    3. Structures may not be demolished using this authority unless the structures can be defined as debris or wreckage caused by the major disaster. The following criteria also apply:
        - the structures were damaged by the disaster, and
        - the structures are determined to be unsafe and pose an immediate danger to the public (or the Regional Director otherwise determines that their removal is clearly in the public interest), and

        - the structures have been uninhabited since the major disaster.
    4. While timely action is required, the timeline for emergency work does not govern the use of this authority.
    5. Structures condemned as safety hazards before the disaster are not eligible for demolition and resulting debris removal under Public Assistance grant authority.
    6. Except in very unusual circumstances, such as erosion under slabs on a hillside, slabs or foundations do not constitute debris or wreckage, nor do they present a health or safety hazard to the general public. Broken slabs, or slabs incapable of supporting a new structure, typically do not constitute a public health or safety hazard. Slabs removed primarily for reconstruction purposes are not eligible for removal as disaster-related debris.
    7. The removal of substantially damaged structures and the removal of slabs, driveways, fencing, garages, sheds and similar appurtenances are eligible costs when the property is part of a Section 404 Hazard Mitigation buyout and relocation project. In each case, the principle structure must have been substantially damaged by the disaster, as determined by the local building official.
3. Section 406 Funding of Permanent Work.
    1. Demolition of a structure and removal of debris may be funded when demolition is required:
        - as part of a Public Assistance program repair, replacement, or construction project,
        - as part of a relocation required by the FEMA Regional Director under 44 CFR 206.226(e)(2), or
        - as part of an approved relocation cost when a Public Assistance program structure is being moved out of the 100 year floodplain.
    2. Demolition also may be funded when it is part or all of an approved alternate project for the welfare of the general public.

8. Supersession: This policy replaces RR #9523.4, *Interim Policy on Demolition of Private and Public Facilities, issued September 14, 1999*.
9. Reference: Memorandum dated March 30, 1995, *"Demolition of Flood Damaged Structures Under Section 403 of the Stafford Act,"* from Richard W. Krimm, Associate Director, Response and Recovery Directorate, to Richard T. Moore, Associate Director for Mitigation.
10. Authorities: Stafford Act, Sections 403, 406 and 407; 44 CFR 206.
11. Originating Office: Infrastructure Division, Response and Recovery Directorate.
12. Review Date: Two years from date of publication

FEMA
RECOVERY POLICY - RP9523.11

I. TITLE: **Hazardous Stump Extraction and Removal Eligibility**

II. DATE: May 1, 2006

III. PURPOSE:

Establish criteria used to reimburse applicants for removing eligible hazardous stumps from public or, where authorized, private property.

IV. SCOPE AND AUDIENCE:

The policy is applicable to all major disasters and emergencies declared on or after the date of publication. It is intended for all personnel involved in the administration and execution of the Public Assistance Program, including applicants.

V. AUTHORITY:

Sections 403 and 407 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5121-5206, as amended.

VI. BACKGROUND:

Public Assistance regulations authorize reimbursement for the removal of debris from public and private land when it is in the public interest. Such removal is in the public interest when it is necessary to: eliminate immediate threats to life, public health and safety, or eliminate immediate threats of significant damage to improved public or private property; or to ensure economic recovery of the affected community to the benefit of the community at large. Trees that are uprooted during a disaster event such that all or part of their roots are exposed may pose an immediate threat to public health and safety.

VII. POLICY:

A. When a disaster event uproots a tree or stump (i.e., 50% or more of root ball is exposed) on a public right-of-way, improved public property or improved property owned by certain private nonprofit organizations, and the exposed root ball poses an immediate threat to life, public health and safety, FEMA may provide supplemental assistance to remove, transport, dispose, and provide fill for the root cavity of an eligible uprooted tree or stump. The Federal Emergency Management Agency (FEMA) will reimburse applicants reasonable costs for this type of work only when uprooted stumps are more than 24 inches in diameter (measured two

feet from the ground), with the consensus of the Applicant and the State, and is approved in advance by FEMA, using the attached Hazardous Stump Worksheet.

1. If it is necessary to remove an uprooted stump before it can be inspected by FEMA because it poses a threat that must be dealt with immediately, the applicant must submit documentation, to FEMA including photographs, that establishes its location on public property, specifics on the threat, stump diameter measured two feet up the trunk from the ground, quantity of material to fill the hole, and any special circumstances.

2. FEMA will reimburse applicants for extraction, transport and disposal of stumps with a diameter of 24 inches or smaller at the unit cost rate for regular vegetative debris, using the attached Stump Conversion Table, as such stumps do not require special equipment.

3. FEMA will reimburse applicants at the unit cost rate (usually cubic yards) for normal debris removal for all stumps, regardless of size, placed on the rights-of-way by others (i.e., contractors did not extract them from public property or property of eligible Private Non Profit organization). In such instances, applicants do not incur additional cost to remove these stumps – the same equipment is used to pick up "regular" debris can be used to pick up these stumps.

4. If an applicant incurs additional costs in picking up large stumps (over 24 inches in diameter) from rights-of-way, it should complete the Hazardous Stump Worksheet and present documentation to FEMA in advance for consideration.

5. Stumps with less than 50% of their root ball exposed should be cut flush at ground level, and the cut portion included with regular vegetative debris. Straightening or bracing of trees is not eligible for reimbursement.

VIII. **ORIGINATING OFFICE:** Recovery Division (Public Assistance Branch)

IX. **SUPERSESSION:** This Policy Directive supersedes all previous guidance on this subject.

X **REVIEW DATE:** Three years from the date of publication.

David Garratt
Acting Director of Recovery
Federal Emergency Management Agency

Stump Conversion Table

Diameter to Volume Capacity

The quantification of the cubic yards of debris for each size of stump in the following table was derived from FEMA field studies conducted throughout the State of Florida during the debris removal operations following Hurricanes Charley, Frances, Ivan and Jeanne. The following formula is used to derive cubic yards:

$$\frac{[(\text{Stump Diameter}^2 \times 0.7854) \times \text{Stump Length}] + [(\text{Root Ball Diameter}^2 \times 0.7854) \times \text{Root Ball Height}]}{46656}$$

0.7854 is one-fourth Pi and is a constant.
46656 is used to convert cubic inches to cubic yards and is a constant

The formula used to calculate the cubic yardage used the following factors, based upon findings in the field:

- Stump diameter measured two feet up from ground
- Stump diameter to root ball diameter ratio of 1:3.6
- Root ball height of 31"

Stump Diameter (Inches)	Debris Volume (Cubic Yards)	Stump Diameter (Inches)	Debris Volume (Cubic Yards)
6	0.3	46	15.2
7	0.4	47	15.8
8	0.5	48	16.5
9	0.6	49	17.2
10	0.7	50	17.9
11	0.9	51	18.6
12	1	52	19.4
13	1.2	53	20.1
14	1.4	54	20.9
15	1.6	55	21.7
16	1.8	56	22.5
17	2.1	57	23.3
18	2.3	58	24.1
19	2.6	59	24.9
20	2.9	60	25.8
21	3.2	61	26.7
22	3.5	62	27.6
23	3.8	63	28.4
24	4.1	64	29.4
25	4.5	65	30.3
26	4.8	66	31.2
27	5.2	67	32.2
28	5.6	68	33.1
29	6	69	34.1
30	6.5	70	35.1
31	6.9	71	36.1
32	7.3	72	37.2
33	7.8	73	38.2
34	8.3	74	39.2
35	8.8	75	40.3
36	9.3	76	41.4
37	9.8	77	42.5
38	10.3	78	43.6
39	10.9	79	44.7
40	11.5	80	45.9
41	12	81	47
42	12.6	82	48.2
43	13.3	83	49.4
44	13.9	84	50.6
45	14.5		

Hazardous Stump Worksheet

Applicant: _____ Date: _____

Applicant Representative: _____ Signature: _____

FEMA Representative: _____ Signature: _____

State Representative: _____ Signature: _____

	Physical Location (i.e., Street address, road cross streets, etc.)	Describe Facility (ROW, Park, City Hall, etc.)	Hazard		GPS (Decimal Degrees)	Tree Size (Dia.)	Eligible		Fill	Comments
			Yes	No			Yes (Green)	No (Red)	CY	
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										

FEMA
RECOVERY POLICY - RP9523.12

I. TITLE: **Debris Operations – Hand-Loaded Trucks and Trailers**

II. DATE: May 1, 2006

III. PURPOSE:

To describe the criteria the Federal Emergency Management Agency (FEMA) will use to reimburse applicants for eligible debris removal accomplished with trucks and trailers loaded physically by hand, rather than with mechanical equipment.

IV. SCOPE AND AUDIENCE:

The policy is applicable to all major disasters and emergencies declared on or after the date of publication. It is intended for all personnel involved in the administration and execution of the Public Assistance Program, including applicants.

V. AUTHORITY:

Sections 403 and 407 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5121-5206, as amended.

VI. BACKGROUND:

A. Debris removal companies under contract with local governments have frequently supplemented their vegetative debris removal operations by hiring subcontractors who modify their trucks and trailers by extending sidewalls with plywood or other materials to increase the vehicle's load capacity. Because of the tenuous nature of these improvements, operators typically load these vehicles physically by hand. The inefficiencies associated with loading these trucks or trailers by hand, instead of using mechanical equipment, effectively negates the increased capacity advantages of these vehicles. Hand loading cannot achieve compaction levels comparable to mechanically loaded vehicles. Further, the unit cost for transporting debris is based on mechanical loading of trailers and trucks.

B. FEMA performed studies throughout the State of Florida following the four devastating hurricanes in 2004 and determined that a mechanically-loaded vehicle had a weight-to-volume ratio at least twice that of hand-loaded vehicles. In other words, vehicles of the same measured capacity that were loaded by mechanical equipment and reasonably compacted carried at least

twice the volume of debris as those loaded physically by hand. FEMA has therefore determined it is not reasonable to reimburse applicants - for hand-loaded vehicles and mechanically loaded vehicles – at the same rate.

VII. POLICY:

A. Debris monitors located at temporary or final debris disposal sites will reduce the observed capacity of each hand-loaded truck or trailer load by 50% because of the low compaction achieved by hand-loading. For example, if a 40 cubic-yard (CY) hand-loaded truck or trailer arrives at a debris management or disposal site, and it appears to be 100 percent full, the actual quantity of debris in the truck or trailer will be recorded as 20 CY {(40 CY / 2) * 100%}. In the same manner, if the truck or trailer appears half full, the load will be recorded as 10 CY {(40 CY / 2) * 50%}. The maximum amount recorded for a hand-loaded vehicle will be 50% of its measured capacity.

B. FEMA will reimburse applicants on the basis of capacities calculated in VII-A.

VIII. ORIGINATING OFFICE: Recovery Division (Public Assistance Branch)

IX. SUPERSESSION: Not applicable.

X REVIEW DATE: Three years from the date of publication.

David Garratt
Acting Director of Recovery
Federal Emergency Management Agency

POLICY NUMBER 9523.13

DEBRIS REMOVAL FROM PRIVATE PROPERTY

1. Date Signed: October 23, 2005
2. Recovery Division Policy Number: 9523.13
3. Title: Debris Removal from Private Property
4. Purpose: This revised policy is being issued to include the areas devastated by Hurricane Rita under this guidance and provide guidance on debris removal from commercial private property. This policy provides guidance on the appropriate use of funding as provided for in the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), as amended, for debris removal and disposal, including demolition of unsafe structures, (hereafter referred to as "debris removal") from private property in areas where Hurricanes Katrina and Rita caused catastrophic damage. This will ensure consistency in the use of Sections 403 and 407 funding among the Joint Field Offices in the states of Alabama, Louisiana, Mississippi and Texas. It will also decrease the time it takes to deliver funding to the catastrophically impacted areas by streamlining the process through which applicants demonstrate compliance with the requirements in Sections 403 and 407 of the Stafford Act.
5. Scope and Audience: This policy applies only to catastrophically damaged areas in the states of Alabama, Louisiana, Mississippi and Texas under FEMA-1605-DR-AL, FEMA-1603-DR-LA, FEMA-1607-DR-LA, FEMA-1604-DR-MS, and FEMA-1606-DR-TX, respectively. It is intended to guide all personnel responsible for the administration of the FEMA Public Assistance grant program.
6. Background:
    1. Sections 403 and 407 of the Stafford Act, 42 U.S.C. 5170b and 5173, provide FEMA authority to fund debris removal from private property provided that the State or local government arranges an unconditional authorization for removal of the debris, and agrees to indemnify the Federal government against any claim arising from the removal.
    2. The regulations implementing Sections 403 and 407 of the Stafford Act at 44 CFR § 206.224 establish the requirement that debris removal be in the "public interest" in order to be eligible for reimbursement. "Public interest" is defined as being necessary to:
        1. eliminate immediate threats to life, public health, and safety; or
        2. eliminate immediate threats of significant damage to improved property; or
        3. ensure economic recovery of the affected community to the benefit of the community at large.
    3. Hurricanes Katrina and Rita have in some areas created catastrophic, widespread destruction resulting in vast quantities of debris which may require state or local government to enter private property to remove it in order to prevent disease and other immediate public health and safety threats. In these situations, debris removal from private property may be in the public interest and thus may be eligible for reimbursement, when the unconditional authorization for debris removal and indemnification requirements established by Sections 403 and 407 of the Stafford Act are met.
    4. Debris removal from private property generally does not include strictly commercial sites. It is assumed and expected that these commercial enterprises retain insurance that can and will cover the cost of debris removal. The removal of debris from private commercial property by a state or local government is eligible for FEMA reimbursement when such removal is in the public interest

7. Policy: The following guidance for reimbursement of state, county and municipal governments for costs incurred in debris removal from private property applies to major disaster declarations FEMA-1603-DR-LA, FEMA-1604-DR-MS, FEMA-1605-DR-AL, FEMA-1606-DR-TX and FEMA-1607-DR-LA.
    1. FEMA will work with each State to designate those areas where the debris is so widespread that removal of the debris from private property is in the "public interest" under 44 CFR § 206.224 and thus is eligible for FEMA reimbursement.
    2. States, counties and municipalities ordinarily rely on condemnation and nuisance abatement authorities and obtain a right-of-entry from private property owners prior to the commencement of debris removal work. There may be circumstances, however, where the State or local government determines that ordinary condemnation and nuisance abatement procedures and the obtaining of a right of entry from each property owner are too time consuming to address an immediate public health and safety threat.
    3. Any State or local government that intends to remove debris from private property must, prior to commencement of work, submit a written request to the Federal Coordinating Officer (FCO) seeking approval for reimbursement. The written request and any accompanying attachments must include the following provisions:
        1. The request concerns conditions determined by the relevant State, county or municipal government's Department of Health or equivalent public health authority to be an immediate public health and safety threat.
        2. A detailed explanation certifying the requesting entity's legal responsibility, duty and authority to remove debris from private property, and has satisfied all required legal process and received all necessary permissions for such actions.
        3. Confirmation that a legally-authorized official of the requesting entity has ordered the exercise of public emergency powers or other appropriate authority to enter onto private property in order to remove/reduce a public health and safety threat via debris removal.
        4. The requesting entity indemnifies the Federal government and its employees, agents, and contractors.
    4. When deciding whether to authorize the removal of debris from private commercial property, the FCO should determine if it is necessary to: eliminate an immediate threat to life, public health, safety or significant damage to improved property, 44 CFR § 206.224(a)(1) and (a)(2); or ensure economic recovery of the affected community to the benefit of the community-at-large, 44 CFR § 206.224(a)(3).

       In making a determination, the FCO will consider the following factors relative to an immediate threat to public health and safety:
        - Is there a substantial risk that human remains may be intermixed with the debris creating an immediate public health and safety threat?
        - Is the commercial property in such close proximity to residential property and the level of destruction so catastrophic that it is impossible to delineate between residential and commercial property and debris?
        - Can the threat to public health and safety be lessened or eliminated by placing a fence around the property?
        - Generally, the removal of debris from commercial private property is not eligible when the sites are separated from residential or business districts. Examples of these areas are industrial parks and woodland areas.

          or the following factors relative to the economic recovery of the community-at-large:

- What specific financial reasons are preventing the business from removing its own debris?
- Does the business have the financial capability to reopen if and only if the government removes the debris?
- What effect will the restoration of the business have with respect to the economic recovery of the community to the benefit of the community-at-large?

5. FEMA is prohibited from approving funds that would result in a duplication of benefits, and therefore, State and local governments must take reasonable steps to prevent such an occurrence. These steps include the requesting entity's agreement to research whether insurance coverage exists for the debris removal accomplished on each piece of private property in the project. If it is discovered that duplication of benefits has occurred, the State or local government must agree to make reasonable efforts to recover such proceeds paid to the property owners and remit in a timely fashion to FEMA.
6. For those instances where the State or local government determines that ordinary condemnation and nuisance abatement procedures and the obtaining of a right of entry are too time consuming, the FCO will also require a written opinion from the relevant State's Office of the Attorney General confirming the legal basis under state constitutional and statutory authority for the State, county and municipal governments to enter private property to perform debris removal.
7. All private property requiring debris removal must be identified and requested to FEMA in accordance with this policy within 90 calendar days of the declaration. After FEMA approval, emergency debris removal must begin within 180 calendar days from declaration. . These deadlines may be extended by the FCO based on circumstances beyond the control of the State or local government.
8. The FCO will approve or disapprove in writing each written request for private property debris removal within five business days of receiving the request from the State or local government. After receiving approval from the FCO, the State or local government may begin identified private property debris removal activities and the application process for supplemental assistance through the Public Assistance Program.

8. Supersession: This policy replaces Recovery Policy Number 9523.13, dated September 7, 2005
9. Authorities: Sections 403 and 407 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, and the implementing regulations at 44 CFR § 206.224.
10. Originating Office: Public Assistance Branch, Recovery Division, FEMA, U.S. Department of Homeland Security.

POLICY NUMBER 9525.3

DUPLICATION OF BENEFITS - NON-GOVERNMENT FUNDS

1. Date Published: October 30, 2000
2. Response and Recovery Directorate Policy Number: 9525.3
3. Title: Duplication of Benefits - Non-Government Funds
4. Purpose: This policy clarifies the issues related to grants and cash donations from third parties for emergency and permanent work under the Public Assistance Program.
5. Scope and Audience: This policy amends the policy of the same title issued on August 17, 1999. Due to the nature of the change, this policy is retroactive to that date. This policy is intended for Federal Emergency Management Agency (FEMA) personnel in making eligibility determinations for the Public Assistance Program and is applicable to all emergency and permanent work done under Public Assistance program grants.
6. Background:
    A. Communities and private non-profit institutions often look for assistance from the general public, private institutions, and Federal and State agencies to help rebuild their infrastructure following a disaster. This assistance may come in the form of donations, insurance proceeds, volunteer work, or grants. With multiple entities providing assistance, it is possible for different sources to allocate funds to repair the same project. This action may constitute a duplication of benefits.
    B. Section 312 (a) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, P.L. 93-288 as amended states that no entity will receive assistance for any loss for which financial assistance has already been received from any other program, from insurance, or from any other source. The use of Federal and/or State funds granted for the same purpose clearly constitutes a duplication of benefits. However, grant or cash donations provided by a private benefactor also may constitute a duplication of benefits.
    C. Part 13 of 44 CFR allows, but does not require, the credit of third party donations to the non-federal cost share. FEMA's position on the credit of third party donations was to require grant and cash donations designated solely for eligible work to be used to reduce total project cost. In early 2000, it was demonstrated that this policy was unacceptably burdensome, especially on small government applicants, and on private nonprofit organizations (PNPs) without other sources of income. Therefore, the application of this policy was modified to allow all eligible applicants to use cash donations, and possibly grants (depending on source and conditions), for the non-federal share of project costs.
7. Policy:
    A. Grants and cash donations designated for specific eligible work. Grants and cash donations from non-Federal sources designated for the same purpose as Federal disaster funds generally are considered a duplication of benefit. However, cash donations and grants from non-Federal sources designated for the same purpose as Federal disaster funds may be used for the non-Federal cost-share. Funds exceeding the amount of the non-Federal obligation must be used to reduce the total project cost. If donated funds designated for specific eligible work exceed the amount of the non-Federal obligation, FEMA headquarters will provide the methodology for calculating the adjusted project cost and adjusted non-Federal share.
    B. Grants and cash donations not designated for specific eligible work. Unless otherwise prohibited, grants and cash donations received for unspecified purposes (e.g., "for disaster recovery/relief efforts"), or for work not eligible for FEMA assistance, do not constitute a duplication of benefits.
    C. Insurance. Disaster assistance will not be provided for damages covered by insurance. Disaster assistance provided by FEMA is intended to supplement assistance from other

sources; therefore, insurance proceeds should be an applicant's first alternative for disaster assistance. An adjustment for the amount that should be received from insurance coverage is required even if the applicant has not completed negotiations with the insurer.

D. The retention of duplicated funds is illegal. Duplicated Federal funds must be returned to FEMA.

8. Supersession: This policy revises and replaces RR Policy #9525.3, Duplication of Benefits-Non-Government Funds that was issued on August 17, 1999.
9. Authorities: Robert T. Stafford Disaster Relief and Emergency Assistance Act, Section 312; 44 CFR 13.24 and 206.226(a).
10. Originating Office: Infrastructure Division, Response and Recovery Directorate.
11. Review Date: Five years from date of publication.

POLICY NUMBER 9580.4

DEBRIS OPERATIONS - CLARIFICATION: EMERGENCY CONTRACTING VS. EMERGENCY WORK

Response and Recovery Directorate Policy Number: 9580.4
Date Published: January 19, 2001

SUMMARY: Contracting for debris operations, even though it is "emergency work" in FEMA operations, does not necessarily mean the contracts can be awarded without competitive bidding. Applicants should comply with State laws and regulations, but should be aware that non-competitive contracting is acceptable ONLY in rare circumstances where there can be no delay in meeting a requirement. In general, contracting for debris work requires competitive bidding. The definition of "emergency" in contracting procedures is not the same as FEMA's definition of "emergency work".

DISCUSSION: There appears to be some confusion regarding the awarding of some contracts, especially for debris, without competitive bidding. The reason cited for such actions is that the contract is for emergency work, and competitive bidding is not required.

Part 13 of 44 CFR is entitled "Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments". These requirements apply to all grants and subgrants to governments, except where inconsistent with Federal statutes or regulations authorized in accordance with the exception provisions of Section 13.6. In essence, these regulations apply to all Federal grants awarded to State, tribal and local governments.

Non-competitive proposals awarded under emergency requirements are addressed as follows:

"Procurement by non-competitive proposals may be used only when the award of a contract is infeasible under small purchase procedures, sealed bids, or competitive proposals and one of the following circumstances applies:

(A) .....

(B) The public exigency or emergency of the requirement will not permit a delay resulting from competitive solicitation." (44 CFR Part 13.36(d)(4)(1)(B))."

Staff of the Office of General Counsel and the Office of the Inspector General have expressed concern that contracts are being awarded under this section without an understanding of the requirement. Simply stated, non-competitive contracts can be awarded only if the emergency is such that the contract award **cannot be delayed by the amount of time required to obtain competitive bidding**.

FEMA's division of disaster work into "emergency" and "permanent" is generally based on the period of time during which the work is to be performed, and not on the urgency of that work. Therefore, the award of non-competitive contracts cannot be justified on the basis of "emergency work", as defined by FEMA.

In some situations, such as clearing road for emergency access (moving debris off the driving surface to the shoulders or rights-of-way), or removal of debris at a specific site, awarding a non-competitive contract for site-specific work may be warranted; however, normally, non-competitive bid awards should not be made several days (or weeks) after the disaster or for long-term debris removal. Obviously, the

latter situations do not address a public exigency or emergency which "will not permit a delay resulting from competitive solicitation".

Regarding competitive solicitations, applicants can use an expedited process for obtaining competitive bids. In the past, applicants have developed a scope-of-work, identified contractors that can do the work, made telephone invitations for bids, and received excellent competitive bids. Again, applicants must comply with State and local bidding requirements.

Please remind applicants that no contractor has the authority to make determinations as to eligibility, determinations of acceptable emergency contracting procedures, or definitions of emergency work. Such determinations are to be made by FEMA.

POLICY NUMBER 9580.5

LEGAL RESPONSIBILITY FOR REMOVING DEBRIS FROM PRIVATE PROPERTY

Policy Number 9580.5
Date Published: May 16, 2005

The purpose of this fact sheet is to explain how an eligible applicant must demonstrate it has the legal responsibility to remove debris from private property. Public Assistance Program regulations require that applicants be legally responsible for performing work for which they seek reimburse from FEMA.

FEMA regulations authorize the provision of assistance for debris removal from publicly and privately owned lands and waters when it is in the "public interest" to do so, and the work is performed by an eligible applicant with legal responsibility for the work. State and local governments have inherent legal authority over public property and FEMA has determined that it is in the public interest to remove disaster-related debris from public property, including public rights-of-way. Therefore, reimbursement for these costs is eligible under FEMA's Public Assistance Program. The removal of debris from private property may be in the public interest when it is required to eliminate or lessen an immediate threat to life and safety, to reduce a threat of additional damage to improved property or to promote economic recovery of the community at large. FEMA evaluates requests for debris removal from private property on a case-by-case basis.

In addition to meeting one of the above criteria for private property debris removal, an eligible applicant must demonstrate that it has the legal responsibility to remove the debris. Usually, a state or local government has broad discretion under its police powers to take a variety of actions to protect its citizens from harm. This discretion is often codified in local laws, ordinances, or codes. For purposes of the Public Assistance Program, the community must demonstrate the legal basis upon which it exercised or intends to exercise its discretion following a major disaster or emergency.

If the community has determined that debris on private property presents a health and safety hazard and FEMA concurs, the community must follow the same legal procedure it uses in non-disaster situations to eliminate, remove or abate hazards. For example, if a community's nuisance abatement ordinance requires the community to eliminate a hazard and charge the owner for the cost if the owner fails to abate the hazard, we would expect the community to follow this procedure in a post-disaster environment. If the ordinance gives the community discretion to waive the cost of abating the hazard (i.e. not charging the property owner), FEMA will review the community's historical application of the ordinance to determine if the community has in the past waived its costs for abating a hazard on private property. Disasters where there is a high concentration of debris on private property over a widespread area presenting an immediate health and safety hazard may not warrant a community applying its ordinary ordinance process precisely. In these cases, FEMA will evaluate the community's demonstration of legal responsibility to remove debris from private property on a case-by-case basis. The community must provide detailed information, including copies of relevant laws, codes and ordinances, explaining its legal authority for removing debris from private property.

A community's condemnation of property and/or obtaining signed rights-of-entry and hold harmless agreements from property owners do not demonstrate the community's legal responsibility for the purposes of the Public Assistance Program.

FEMA

RECOVERY DIVISION

FACT SHEET

DEBRIS REMOVAL

APPLICANT'S CONTRACTING CHECKLIST

Overview

To be eligible for reimbursement under the Public Assistance Program, contracts for debris removal must meet rules for Federal grants, as provided for in 44 CFR Part 13.36 *Procurement* (http://www.access.gpo.gov/nara/cfr/waisidx_04/44cfr13_04.html). Public Assistance applicants should comply with their own procurement procedures in accordance with applicable State and local laws and regulations, provided that they conform to applicable Federal laws and standards identified in Part 13. The following guidance is provided to assist Public Assistance applicants in the procurement process.

Contracting Process Checklist

- ☐ Use competitive bidding procedures. Complete and document a cost analysis to demonstrate price reasonableness on any contract or contract modification where adequate price competition is lacking, as detailed in 44 CFR 13.36(f).
- ☐ Provide a clear and definitive scope of work and monitoring requirements in the request for proposals/bids. Use acceptable emergency contracting procedures that include an expedited competitive bid process only if time does not allow for more stringent procedures.
- ☐ Require bidders to provide copies of references, licenses, financial records, and proof of insurance and bonding.
- ☐ Obtain review from your legal representative of your procurement process and any contract to be awarded to ensure they are in compliance with all Federal, State, and local requirements.
- ☐ Document procedures used to obtain/award contracts (procurement information, bid requests and tabulations, etc).
- ☐ Use load ticket requirement to record with specificity (e.g., street address) where debris is picked up and the amount picked up, hauled, reduced and disposed of.

FEMA will, when requested by applicants, assist in the review of debris removal contracts. However, such a review does not constitute approval.

FEMA

RECOVERY DIVISION

FACT SHEET

DEBRIS REMOVAL

APPLICANT'S CONTRACTING CHECKLIST

Contract Provisions Checklist

All contracts must contain/reflect the following provisions:

- ☐ All payment provisions must be based on unit prices.
- ☐ No payments may be based on time and material costs unless limited to work performed during the first 70 hours of actual work following a disaster event.
- ☐ That payment will be made only for debris that FEMA determines eligible, referencing FEMA regulations and Public Assistance guides and fact sheets. (This is an optional provision to protect the applicant, and is used only following a major disaster declaration.)
- ☐ An invoice provision requiring contractors to submit invoices regularly and for no more than 30-day periods.
- ☐ A "Termination for Convenience" clause allowing contract termination at any time for any reason.
- ☐ A reasonable limit on the period of performance for the work to be done.
- ☐ A subcontract plan including a clear description of the percentage of the work the contractor may subcontract out and limiting use of subcontractors to only those you approve.
- ☐ The preference that the contractor use mechanical equipment to load and reasonably compact debris into the trucks and trailers.
- ☐ The requirement that the contractor provide a safe working environment, including properly constructed monitoring towers.
- ☐ Option of a unit price for extracting from ground and removing FEMA-eligible stumps (only for stumps with diameters larger than 24 inches, measured 24 inches above the ground, and with 50% or more of the root ball exposed), or including all stumps in the unit price.

FEMA

RECOVERY DIVISION

FACT SHEET

DEBRIS REMOVAL

APPLICANT'S CONTRACTING CHECKLIST

Contract Provisions Checklist - Continued

All contracts must contain/reflect the following provisions:

- ☐ Requirement that all contract amendments and modifications be in writing.
- ☐ Requirement that contractor obtain adequate payment and performance bonds and insurance coverage.

Pre-Disaster and Stand-By Contracts Checklist

- ☐ The solicitation for a pre-disaster contract must adequately define in the proposed scope of work all the potential types of debris, typical haul distances, and size of events for which the contract may be activated.
- ☐ You may request bids for multiple scenarios for varying sizes of events.
- ☐ To ensure reasonable debris removal costs, award pre-disaster debris removal contracts based on either unit prices (volume or weight) or time and material.
- ☐ If the contract is awarded on a time and material basis, it should be limited to no more than 70 hours of actual clearance and removal operations.
- ☐ After the initial 70-hour period, payment should be on a unit price basis (volume or weight).

FEMA

RECOVERY DIVISION

FACT SHEET

DEBRIS REMOVAL

APPLICANT'S CONTRACTING CHECKLIST

Avoidance Checklist

- ☐ **DO NOT:** Award a debris removal contract on a sole-source basis.
- ☐ **DO NOT:** Sign a contract (including one provided by a contractor) until it has been thoroughly reviewed by your legal representative.
- ☐ **DO NOT:** Allow any contractor to make eligibility determinations, since only FEMA has that authority.
- ☐ **DO NOT:** Accept any contractor's claim that it is "FEMA certified." FEMA does not certify, credential, or recommend debris contractors.
- ☐ **DO NOT:** Award a contract to develop and manage debris processing sites unless you know it is necessary, and have contacted the State for technical assistance concerning the need for such operations. Temporary debris storage and reduction sites are not always necessary.
- ☐ **DO NOT:** Allow separate line item payment for stumps 24 inches and smaller in diameter; these should be treated as normal debris.
- ☐ **DO NOT:** "Piggyback" or utilize a contract awarded by another entity. Piggybacking may be legal under applicable state law; however, the use of such a contract may jeopardize FEMA funding.
- ☐ **DO NOT:** Award pre-disaster/stand-by contracts with mobilization costs or unit costs that are significantly higher than what they would be if the contract were awarded post-disaster. Such contracts should have variable mobilization costs depending upon the size of the debris work that may be encountered.

FEMA PUBLIC ASSISTANCE DEBRIS MANAGEMENT INFORMATION

Debris Management Contracting and Monitoring

Applicants may use force account labor and resources to accomplish part or all of the work after a disaster or they may use contractors. If contractors are used to do part or all of the work, the Applicant must follow FEMA contracting guidelines to ensure maximum reimbursement for debris removal and disposal efforts.

Acceptable Contract Types

1. **Time and Materials – Cannot be used for more than 70 hours of actual work.** This type of contract is usually used immediately after a disaster to mobilize contractors to start emergency removal efforts. These contracts should have a termination clause and a not-to-exceed limit for both time and costs. The contract should be terminated when the first of these limits is reached.
2. **Unit Price – Is usually used when the scope of work is hard to define and is based on estimated quantities of debris.** Unit price contracts are based on weight (tons) or volume (cubic yards). These contracts require close monitoring during removal, hauling and disposal to ensure accuracy.
3. **Lump Sum – Should only be used when the scope of work is clearly defined and the areas of work can be precisely identified.** Lump sum contracts establish one price for all work included in the contract. The price is fixed unless the scope of work changes. This type of contract is easy to monitor when the scope is well-defined.

A pre-awarded contract for emergency services may be used if the contract was competitively bid and prices are comparable with established rates in the region. The contract issuer may be a jurisdiction or a regional operational authority. "Piggybacking" by using an existing contract established by another jurisdiction is **not** recognized by FEMA as an acceptable form of contracting.

Cost plus a percentage, contingency contracts, and contracts awarded to debarred contractors are **not** allowed.

Contract Monitoring/Debris Monitoring

As a condition of the FEMA grant funding program, the Applicant is responsible for ensuring that the contract is properly monitored so that quantities and expenses are documented to substantiate FEMA funding.

- ✓ Monitors should verify that debris picked up is eligible; measure truck load capacities; verify volumes or weights of debris in trucks; inspect pick-up areas, haul routes, temporary storage sites, and disposal sites; verify the contractor is working in assigned areas; and ensure other contract requirements are met.
- ✓ The Applicant should train and deploy debris monitors to watch and document contractor activities. Debris monitors may come from the Applicant's full-time work force, temporary hires, or contracted services. The Applicant may also request FEMA/State assistance with debris monitoring. The costs of overtime, temporary hires, and contractors performing disaster-related debris removal work are eligible for reimbursement.
- ✓ For unit price contracts, the Applicant should use load tickets to document weights and volumes of contractor vehicles and loads.
- ✓ For time and materials contracts, the Applicant should document the times that Contractor manpower and equipment are actively used (limited to 70 hours).

The Applicant can request debris monitor training from the State and FEMA

Contracting Tips:

- ✓ FEMA does not recommend, pre-approve, or certify any debris contractor.
- ✓ Only FEMA has the authority to make eligibility decisions; **contractors cannot make eligibility determinations.**
- ✓ FEMA does not credential any personnel other than official employees and Technical Assistance Contractor personnel.
- ✓ Contracts should have a well-defined scope of work, specified costs, basis of payment, and delivery schedule.
- ✓ Contracts must be competitively bid and have "reasonable" costs.
- ✓ FEMA will participate in uniform practices of reimbursing mutual aid costs if a written agreement was signed prior to the disaster occurring.
- ✓ Communities cannot guarantee a minimum number of hours for a time and materials contract.
- ✓ For reimbursement, Applicants must be able to provide FEMA with documentation of competitive bidding, bid tabulation, contract monitoring including field monitoring of debris operations, quantity of debris handled, payment, and force account costs (if applicable).

Contracting/Monitoring References

FEMA 321, Policy Digest
FEMA 322, Public Assistance Guide
FEMA 325, Debris Management Guide
FEMA 329, Debris Management Brochure
FEMA 9580.1, Debris Operations Job Aid
FEMA 9580.4, Fact Sheet: Debris Operations

FEMA PUBLIC ASSISTANCE DEBRIS MANAGEMENT INFORMATION

Debris Management Eligibility and Documentation

Eligibility

Funds are available through FEMA's Public Assistance grant program to reimburse Applicants for eligible expenses incurred in performing disaster-related debris management operations. Determination of eligibility is a FEMA responsibility. **Contractors do not have the authority to make eligibility determinations.**

Generally, disaster-related debris located on public property and in public rights-of-way is eligible for FEMA reimbursement. Eligible disaster debris may include downed trees and other woody debris; sand, silt, mud and gravel; building wreckage; and vehicles in the right-of-way.

Debris on private property generally is not eligible for funding under the Public Assistance Program, but disaster-damaged personal property may be moved to the curbside to be picked up by an eligible Applicant. Under extenuating circumstances, FEMA may approve removal of debris from private property on a case-by-case basis. Applicants should contact their State Emergency Management Agency for additional information prior to debris removal. Disaster debris that threatens private property may be eligible under FEMA's Individual Assistance Program.

Additional Eligibility References

FEMA 321, *Public Assistance Policy Digest*, p. 28. http://www.fema.gov/pdf/rrr/pd/pdigest.pdf

FEMA 322, *Public Assistance Guide*, pp. 45-47. http://www.fema.gov/rrr/pd/paguided.shtm

FEMA 325, *Public Assistance Debris Management Guide* http://www.fema.gov/rrr/pa/dmgtoc.shtm

FEMA 329, *Debris Management Brochure* http://www.fema.gov/rrr/pa/dmgbroch/shtm

FEMA 9580.1, *Public Assistance Debris Operations Job Aid* http://www.fema.gov/pdf/rrr/pa/9580_1.pdf

44 CFR 206.224 *(included in FEMA 322, Appendix C)*

Robert T. Stafford Disaster Relief and Emergency Assistance Act, Sections 403 and 407 *(included in FEMA 322, Appendix B)*

Documentation

As part of the grant application process, FEMA requires Applicants to provide detailed documentation to substantiate their claims. Types of documentation that an Applicant should have readily available for FEMA review include:

- ✓ Insurance policies
- ✓ Contracting process documentation (RFQs, bid tabulations, etc.)
- ✓ Contracts used for debris removal and disposal
- ✓ Time sheets documenting type of employee and labor hours/Contractor time sheets
- ✓ Equipment usage logs with drivers, mileage, and dates used
- ✓ Load tickets/Truck scale records
- ✓ Debris Management Site addresses
- ✓ Debris monitoring reports (used to document work performed and to identify issues that arose)
- ✓ Environmental baseline information
- ✓ Final disposal locations and tipping fees

Public Assistance Debris Eligibility Checklist

☐ The Applicant is a local government agency, State government agency, Indian tribe, or Private Nonprofit organization.

☐ The debris or wreckage is on public property or in the public right-of-way.

☐ The Work is a direct result of a Presidentially declared disaster.

☐ The Work is occurring within the designated disaster area.

☐ The Work is the responsibility of the Applicant at the time of the disaster.

☐ The Work eliminates threats to life, public health, or safety; OR

☐ The Work eliminates immediate threats of significant damage to improved public or private property; OR

☐ The Work ensures economic recovery of the affected community to the benefit of the community-at-large.

☐ The cost to remove debris is "reasonable" and is competitive with established rates in the region. (Contractors are used; the contract meets FEMA contracting requirements.) AND/OR

☐ In-house equipment is used to remove debris. Detailed usage logs are kept.

☐ In-house, full-time personnel are used in debris management field operations. Eligible overtime is documented.

☐ Temporary/backfill employees perform debris-related work. Regular and overtime is documented.

FEMA PUBLIC ASSISTANCE DEBRIS MANAGEMENT INFORMATION

Debris Management Planning

Natural disasters such as hurricanes, tornadoes, wind storms, floods, fires and earthquakes, as well as man-made events such as civil unrest and terrorist attacks can generate large volumes of debris over a short period of time. It is advantageous to have a coordinated debris management plan developed in advance of a debris-generating event to expedite the response and recovery process.

Elements of a coordinated debris management plan are highlighted in the column to the right and are discussed in greater detail below.

Organization

An organizational structure, identifying specific roles and responsibilities, must be established in the debris management plan in order to clearly identify who will activate the plan and oversee the associated activities. The organization structure should include the following:

- ✓ The overall Debris Manager for your jurisdiction's operations
- ✓ The Debris Managers/Points of Contact for support agencies
- ✓ Administrative support staff
- ✓ Field support staff/debris monitors
- ✓ A Public Information Officer for debris
- ✓ State and Federal partners.
- ✓ Private contractors, if needed.

Site Selection

Pre-identifying debris management sites in advance of a debris-generating event expedites response and recovery. The following site characteristics items should be considered when selecting debris management sites:

- ✓ Publicly owned land
- ✓ Large open spaces – should be at least 10 acres; greater than 50 acres is ideal
- ✓ Relatively flat topography
- ✓ Good ingress and egress
- ✓ Minimal effect on residential neighborhoods, educational facilities, health care facilities, and environmentally sensitive areas
- ✓ Located near final disposal sites to reduce hauling distances, if possible
- ✓ Does not contain wetlands, endangered species, rare ecosystems, or other environmental restrictions
- ✓ Does not impact historic or archaeological sites
- ✓ Can accommodate separation and reduction of types of debris: vegetative, construction & demolition, household hazardous waste, commercial hazardous waste, etc.
- ✓ Can accommodate types of site operations that may take place: chipping, grinding, air curtain burning, open pit burning, recycling

Additional Debris Planning References

FEMA 325, *Public Assistance Debris Management Guide*

http://www.fema.gov/rrr/pa/dmgtoc.shtm

FEMA 329, *Debris Management Brochure*

http://www.fema.gov/rrrr/pa/dmgbroch.shtm

What should I include in my debris management plan?

Mission. Describe the purpose of the plan and what assumptions were used to develop the plan.

Organization. Develop a management structure for debris management operations. Identify who has overall responsibility for implementing the plan and supporting agencies, departments, and key staff.

Responsibilities. Assign individuals to fill positions identified in the organization and specific tasks to be implemented by those individuals. Identify specific responsibilities to be assumed by support agencies.

Concept of Operations.
Describe how the debris management plan will be implemented. Identify debris clearance priorities; establish who will perform debris clearance, removal and disposal operations; and identify debris management and disposal sites. Consider coordination within and between agencies and the use of mutual aid agreements or memoranda of understanding. Develop estimates of debris types and quantities. Identify how public information will be disseminated and coordinated. Consider how work performed will be documented. Sections may include Normal Operations, Heightened Readiness, Response, and Recovery.

Appendices. Include sample load tickets, forms, rights of entry and hold harmless agreements, and scopes of work. Also include call-down lists, site selection criteria, pre-identified management and disposal site locations, disposal site/landfill sizes and capacities, (environmental and historical) regulatory compliance requirements, permitting requirements, etc.

EXHIBIT Z

CONTAMINATED AND NON-CONTAMINATED DEBRIS COLLECTION AND TEMPORARY DEBRIS STAGING AND REDUCTION SITE HEALTH AND SAFETY PLAN

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SECTION 1.0 - INTRODUCTION AND SCOPE

1.1 INTRODUCTION

1.1.1 Scope and Applicability of the Plan

This Health and Safety Plan (plan) provides on-site personnel with guidance for identifying unique or significant safety and health hazards that may be associated with debris collection and temporary staging and reduction operations for ***contaminated and non-contaminated*** debris.

Personnel using this plan should utilize the information provided with clear knowledge of specific project requirements and professional judgment. Although every attempt has been made to identify hazards of special concern, the plan is not intended to be an all-encompassing analysis identifying each and every physical, chemical, or biological hazard that could be encountered. It is critical for the reader/user, especially those with less professional safety and health training or knowledge, to recognize that the hazard analyses presented in this plan are starting points rather than end points. Each hazard analysis presented must be considered generic and not specific to actual debris collection or temporary debris staging and reduction (TDSR) site conditions. Each agency/contractor will be responsible for developing debris collection operation and TDSR site specific job hazard assessments for their employees, as well as a project specific Health and Safety Plan.

This plan was developed to provide a site-wide mechanism for the coordination of Health and Safety for most debris collection and TDSR site operations. The purpose of this plan is to facilitate the cooperation of all government and private entities collecting debris and/or working on the TDSR site so that health and safety of all workers is a priority when conducting the various associated work tasks. The following entities have contributed to the development of this document:

- U.S. Environmental Protection Agency (USEPA)
- U.S. Occupational Safety and Health Administration (OSHA)
- Virginia Department of Environmental Quality (DEQ)
- Maryland Department of Environment (MDE)
- U.S Army Corps of Engineers (USACE)

Workers shall be informed of the debris collection and TDSR site emergency response procedures and potential health or safety and exposure hazards of the project by their respective agencies or employers. Unsafe conditions or situations that may pose immediate danger to life and health will be reported to the designated agency representatives to allow for proper employee notification. Debris collection and TDSR site workers need to understand that the sorting operation may be a crime scene; therefore the FBI and Police will have authority with respect to debris collection and TDSR site operational activities. Final disposal of all debris deposited at the TDSR site will be determined by the appropriate County and State authorities.

1.1.2 Plan Objectives

The primary objectives of this plan are as follows:

- Identify potential ***contaminated and non-contaminated*** debris hazards that may be encountered during debris collection and at the work TDSR site.
- Establish a minimum basis for assessing that the personal protection equipment (PPE) provided is adequate to protect on site workers within controlled areas associated with ***contaminated and non-contaminated*** debris.
- Establish a satisfactory level of PPE to minimize the potential for debris collection and TDSR site workers to be exposed to potential ***contaminated and non-contaminated*** air-borne hazards above applicable exposure criteria and minimize the potential for injuries or accidents to debris collection and TDSR site workers.
- Facilitate the cooperation of the numerous governmental and private entities with a presence

during debris collection operations and on the TDSR site such that all workers are as safe as reasonably possible.

- Provide a set of minimum safety and health standards to be followed by personnel on site. It is understood that agencies present on site have their own health and safety requirements. It is the intention of this plan to compliment the health and safety plans developed and used by individual agencies and/or private contractors/subcontractors, while establishing minimum standards that will be observed by debris collection workers and the general TDSR site population.

While on site, health and safety-related practices will be governed by OSHA regulations and the U.S. Army Corps of Engineers (USACE) Safety and Health Requirements Manual (EM 385-1-1 September 3, 1996). In the event that a conflict exists between these two documents, the most stringent health and safety practices will apply.

1.1.3 Communication

On-site communications will be accomplished utilizing a series of meetings and/or briefings. It is understood that all agencies, contractors, and employers will disseminate appropriate information to their own employees. There will be daily debris collection operation and TDSR site safety meetings to communicate observations, information, and planned operational changes to the debris collection and TDSR sites. The daily debris collection operation meetings will be conducted at the start of each work day at a location(s) to be determined. The daily TDSR site safety meeting for TDSR site management will be conducted at 11:00 a.m., at a location to be determined.

Should meeting times change, updates will be distributed prior to the time change. Additionally, changes or addenda to this plan, if required, will be distributed to the agencies during these meetings. Attendance at these meetings shall be limited to one health and safety officer/representative per agency, and one representative from each contractor operating on site. This is mainly due to space limitations. In the event that special discussions or issues are scheduled to be addressed, attendance restrictions may be modified to accommodate these conditions. Prime contractor(s) will conduct separate safety meetings with their subcontractors.

SECTION 2.0 - TDSR SITE CONTROL

The existing nature of the debris staging and reduction operation creates a need for TDSR site control. The purpose of this section is to describe the components associated with TDSR site control in an attempt to minimize personnel exposure to potential chemical and physical hazards and off-site tracking of chemical hazards by TDSR site personnel. Several of the areas described below may change as TDSR site conditions change and it is important that the on-site management personnel support the demarcation associated with this plan and develop an appreciation for the fluid nature of the controlled areas as on site operations change.

2.1 TDSR SITE ENTRY

- Entry to the TDSR site will be controlled using an ID-type system. The specifics of this system have not yet been developed.
- Additionally, other Federal organizations and local law enforcement may be visiting the TDSR site. Coordination with the entry point will be conducted to limit access to only operations-associated personnel.

2.2 EXCLUSION ZONE *(Contaminated Debris)*

An Exclusion Zone is the area of greatest potential for worker exposure to chemical and physical agents or hazards. Snow fence, orange highway cones, appropriate signage, or a combination of all three will be used to demarcate this area. Access to the Exclusion Zone will be controlled and only workers wearing appropriate PPE will be permitted entry. The Exclusion Zones generally consist of the debris storage areas and the areas containing

the sifting/sorting operations. Personnel exiting the Exclusion Zone will be generally allowed to exit the area in their PPE except for the following conditions:

- Personnel going to the mess area.
- Personnel leaving the TDSR site.
- Personnel going into one of the on site trailers, buildings, or tents.

Upon exiting the Exclusion Zone for one of the above conditions, personnel shall proceed to the personal hygiene station for cleanup.

2.3 PERSONAL HYGIENE STATION *(Contaminated and Non-Contaminated Debris)*

Personal hygiene stations (PHS) will be established adjacent to the work areas to promote good worker hygiene practices. This area will be provided through a joint effort by the U.S. Environmental Protection Agency (EPA) and the State Environmental Office. Personnel should be directed to the PHS following work in the Exclusion Zone. Access to the mess area is through the PHS. Three hand-wash stations will be provided adjacent to the mess area.

2.4 NON-REGULATED AREAS *(Non-Contaminated Debris)*

Other areas of the TDSR site are generally described as non-regulated areas. This designation has been given to areas (where respirators and PPE are not required) that are not included in the Exclusion Zone. It is understood that the minimum PPE described in Section 4.6 (steel-toed boots, hardhats, safety glasses, safety vests, and hearing protection) shall apply for all non-regulated areas on the TDSR site. Respiratory protection and protective clothing is required in the Exclusion Zone. For the purposes of this plan, the non-regulated areas generally consist- of the following:

- Designated traffic zones, which are described in the next section.
- Command trailer areas.
- Mess areas.
- Medical areas.
- Support structures.

Despite the proximity to the Exclusion Zones, the appropriate level of PPE in these areas will likely be different than the PPE for the Exclusion Zone. Additionally, with the exception of the mess area and the actual trailers associated with the command trailer area and the medical area, the types of PPE worn by workers in these areas likely will be mixed.

A dust suppression evaluation will be conducted which will lead to the development of a Dust Minimization Plan to minimize the potential for fugitive dust in areas of the TDSR site related to the debris sorting operation included but not limited to Exclusion Zone sorting, non-regulated areas, and disposal operations.

2.5 DESIGNATED TRAFFIC ZONES *(Non-Contaminated Debris)*

Designated traffic zones are areas associated with the planned movement of vehicular traffic. These areas are non-regulated areas as described above and will likely change throughout the project as sorting operations change. Additionally, due to the hazards associated with vehicular traffic, these zones are identified separately on the TDSR site plan.

2.6 VEHICLE WASHING STATION *(Contaminated Debris)*

The USEPA and State Environmental Office will develop and implement a mandatory vehicle-washing program to remove TDSR site-derived dust/soils from vehicles leaving the TDSR site. This task was undertaken to minimize transport of TDSR site-derived material off-site. A majority of the workforce is transported to the TDSR site via buses. The buses may make several trips depending on the size of the work-shift. TDSR site command and management personnel should park vehicles in non-regulated areas. A vehicle wash station (VWS) will be established approximately 200-feet from the roadway leading up to the processing area of the TDSR site. Hay bails will be used to minimize migration of water into the other lane of the road. During periods

of cold weather, commercially available products will be used to minimize the formation of the ice on the roadway surface. This operation will be maintained on a 24-hour basis. Prior to leaving the TDSR site, vehicles that have transported potentially contaminated debris associated with this operation, as well as all vehicles driven or parked on the TDSR site, will be required to pass through the VWS. Buses and TDSR site shuttle vehicles will also be washed prior to leaving TDSR site. Modification to the VWS may be necessary at some time in the future to accommodate additional vehicular traffic. Vehicle traffic that does not access the TDSR site will receive a special red vehicle placard, which can be used to bypass the vehicle wash station.

SECTION 3.0 - ACTIVITY HAZARD ANALYSIS *(Contaminated and Non-Contaminated Debris)*

The evaluation of hazards will be based upon the knowledge of debris collection operations and TDSR site background presented in this section and anticipated risks posed by specific operations. The following describes each task/operation in terms of the specific hazards and the protective measures that should be implemented. The identifications of hazards will change as work procedures are modified. As such, this section should be considered a fluid document, and is subject to change throughout the project.

3.1 HAND SORTERS

This includes workers using hand tools to manually sift through debris on the ground. This workforce will be in the Exclusion Zone ***(Contaminated Debris)***. Table 1 below identifies the potential hazards associated with hand sorting of debris and recommended controls to be taken to reduce the possibility of injury.

Principal Tasks	**Potential Hazards**	**Recommended Controls**
Manually sift through debris	1) Exposure to noise in excess of 87.5 dBA.	Use of hearing protection with an adequate noise reduction rating to be determined from exposure monitoring.
	2) Exposure to airborne asbestos and other airborne contaminants.	Use of respiratory protection and protective clothing.
	3) Being hit by moving vehicles.	Use of high visibility clothing, reflective vests, and established safe distance from vehicles.
	4) Being hit by projectiles.	Use of hard hats, eye protection and safety boots.
	5) Heat/cold stress.	Inclusion into heat/cold stress program.
	6) Repetitive motion disorders.	Task rotation and education.
	7) Slips, trips, falls.	Adequate lighting at night, sand/rock salt in icy conditions, keeping main walkways clear of debris.
	8) Exposure to bloodborne pathogens.	Education and use of universal precautions.
	9) Lacerations, puncture wounds from sharp objects.	Use of hard hats, eye protection, work coveralls, puncture-resistant hand protection.

Table 1 - Hand Sorting Potential Hazards

Equipment to be used:

Hearing protection (level to be determined based on noise exposure monitoring), % face negative pressure respirators with HEPA/OV filters, protective suits, hard hats, eye protection, protective footwear as required in EM 385-1-1, 05.A.08, high visibility orange reflective vests, warm clothing.

Inspection requirements:

Daily inspection of all listed equipment should take place prior to donning. Equipment should be inspected for integrity and completeness.

Training requirements:

Hand sorters are assigned to the project on a rotational basis. Sorters will be offered to receive initial respiratory training, fit testing, and a limited medical evaluation, as a part of their debris collection operation and/or TDSR site orientation, if needed.

3.2 GRAPPLE/TRACKHOE OPERATORS

This includes workers operating equipment used to load debris onto mechanical separators. This workforce includes employees from private contractors and force account employees. Table 2 below identifies the potential hazards ***(Contaminated and Non-Contaminated Debris)*** associated with grapple/track hoe operation and recommended controls to be taken to reduce the possibility of injury.

Principal Tasks	Potential Hazards	Recommended Controls
Equipment mounting and dismounting	1) Exposure to noise in excess of 87.5dBA.	Use of hearing protection with an adequate noise reduction rating to be determined from exposure monitoring.
	2) Slips, trips, and fall hazards.	Use of 3 point mounting techniques and proper footwear.
	3) Contusion from frame of cab.	Use of hard hat and safety belts
	4) Injury from other vehicles.	Proper equipment spacing and training.
	5) Exposure to asbestos and other chemical agents.	Exposure assessment through monitoring, use of respiratory protection.
	6) Exposure to heat/cold stress.	Inclusion into heat/cold stress program.
Movement of track hoe around debris piles, sifting equipment and loading of material onto mechanical sorters.	1) Exposure to noise in excess of 87.5dBA (open cab only)	Use of hearing protection with an adequate noise reduction rating to be determined from exposure monitoring.
	2) Injury by flying debris	Use of safety glasses and hard hats.
	3) Exposure to asbestos and other chemical agents.	Exposure assessment through monitoring, use of respiratory protection and protective suits.
	4) Injury to others from	Ensure people, equipment and

	operational hazards of the equipment	materials are not unknowingly in the path of the boom or counterweight.

Table 2 - Grapple/Track hoe Potential Hazards

Equipment to be used:

Hearing protection (level to be determined based on noise exposure monitoring), ½ face negative pressure respirators with HEPA/OV filters, hard hats, eye protection, protective clothing and footwear as required in EM 385-1-1, 05.A.08, high visibility orange reflective vests, warm clothing. **Inspection requirements:**

Daily inspection of all listed equipment should take place prior to donning. Equipment should be inspected for integrity and completeness.

Training requirements:

Grapple Operators are both contractors and force account employees who will be on the job at various debris collection or TDSR sites continuously. Each employer must provide documentation of training (operator certificate or certified letter). The certificate/letter must indicate that each equipment operator has been trained in the proper operation of the equipment. Operators must be trained in the use of respiratory protection. This training will most likely be provided by the employers of the operators, but an amended form of respiratory protection training will be available on-site. Operators will be offered to receive initial respiratory training, fit testing, and limited medical evaluations as part of their debris collection operation and/or TDSR site orientation, if needed.

3.3 FRONT-END LOADER OPERATORS

This includes workers operating front-end loaders. This workforce includes employees from private contractors and force account employees. These workers will be in the Exclusion Zone ***(Contaminated Debris)***. Table 3 below identifies the potential hazards associated with front-end loader operation and recommended controls to be taken to reduce the possibility of injury.

Principal Tasks	Potential Hazards	Recommended Controls
Equipment mounting and dismounting	1) Exposure to noise in excess of 87.5dBA.	Use of hearing protection with an adequate noise reduction rating to be determined from exposure monitoring.
	2) Slips, trips, and fall hazards.	Use of 3 point mounting techniques and proper footwear.
	3) Contusion from frame of cab.	Use of hard hat and safety belts
	4) Injury from other vehicles.	Proper equipment spacing and training.
	5) Exposure to asbestos and other chemical agents.	Exposure assessment through monitoring, use of respiratory protection.
	6) Exposure to heat/cold stress.	Inclusion into heat/cold stress program.
Movement of loader around debris piles,	1) Exposure to noise in excess of 87.5dBA (open	Use of hearing protection with an adequate noise reduction rating to

sifting equipment and discharge of load onto ground at manual pit sorting operations.	cab only)	be determined from exposure monitoring.
	2) Injury by flying debris	Use of safety glasses and hard hats.
Principal Tasks	**Potential Hazards**	**Recommended Controls**
(Continue table from page Z-9)	3) Exposure to asbestos and other chemical agents.	Exposure assessment through monitoring, use of respiratory protection and protective suits.
	4) Potential for pushed debris to reach operator from the track, blade or adjacent debris pile.	Ensure operator training in the safe methods of pushing debris and being attentive when loading trucks.

Table 3 – Front-End Loader Potential Hazards

Equipment to be used:

Hearing protection (level to be determined based on noise exposure monitoring), ½ face negative pressure respirators with HEPA/OV filters, hard hats, eye protection, protective suits and footwear as required in EM 385-1-1, 05.A.08, high visibility orange reflective vests, warm clothing.

Inspection requirements:

Daily inspection of all listed equipment should take place prior to donning. Equipment should be inspected for integrity and completeness.

Training requirements:

Loader Operators are both contractors and force account employees who will be on the job at various debris collection and TDSR sites continuously. Each employer must provide documentation of training (operator certificate or certified letter). The certificate/letter must indicate that each equipment operator has been trained in the proper operation of the equipment. Training in the use of the respirators must be provided. This training will most likely be provided by the employers of the operators, but an amended form of respiratory protection training will be available on-site. Operators will be offered to receive initial respiratory training, fit testing, and limited medical evaluations as part of their debris collection operation and/or TDSR site orientation, if needed.

3.4 DOZER OPERATORS

This includes workers operating bulldozers. This workforce includes employees from private contractors. The workers will be in the Exclusion Zones ***(Contaminated Debris).*** Table 4 below identifies the potential hazards associated with dozer operation and recommended controls to be taken to reduce the possibility of injury.

Principal Tasks	**Potential Hazards**	**Recommended Controls**
Equipment mounting and dismounting (Continue on page Z-11)	1) Exposure to noise in excess of 87.5dBA.	Use of hearing protection with an adequate noise reduction rating to be determined from exposure monitoring.
	2) Slips, trips, and fall hazards.	Use of 3 point mounting techniques and proper footwear.
	3) Contusion from frame of cab.	Use of hard hat and safety belts

	4) Injury from other vehicles.	Proper equipment spacing and training.
	5) Exposure to asbestos and other chemical agents.	Exposure assessment through monitoring, use of respiratory protection.

(Continue from page Z-10)

Principal Tasks	Potential Hazards	Recommended Controls
Equipment mounting and dismounting	6) Exposure to heat/cold stress.	Inclusion into heat/cold stress program.
Movement of dozer around debris piles, sifting equipment and discharge of load onto ground at manual pit sorting operations.	1) Exposure to noise in excess of 87.5dBA (open cab only)	Use of hearing protection with an adequate noise reduction rating to be determined from exposure monitoring.
	2) Injury by flying debris	Use of safety glasses and hard hats.
	3) Exposure to asbestos and other chemical agents.	Exposure assessment through monitoring, use of respiratory protection and protective suits.
	4) Potential for pushed debris to reach operator from the track, blade or adjacent debris pile.	Ensure operator training in the safe methods of pushing debris and being attentive when loading trucks

Table 4 – Dozer Potential Hazards

Equipment to be used:

Hearing protection (level to be determined based on noise exposure monitoring), 1/2 face negative pressure respirators with HEPA/OV filters, hard hats, eye protection, protective suites and footwear as required in EM 385-1-1, 05.A.08, high visibility orange reflective vests, warm clothing.

Inspection requirements:

Daily inspection of all listed equipment should take place prior to donning. Equipment should be inspected for integrity and completeness.

Training requirements:
Dozer Operators are contractors who will be on the job at various debris collection and TDSR sites continuously. Each employer must provide documentation of training (operator certificate or certified letter). The certificate/letter must indicate that each equipment operator has been trained in the proper operation of the equipment. Training in the use of the respirators must be provided. This training will most likely be provided by the employers of the operators, but if not, operators will be offered to receive initial respiratory training, fit testing, and limited medical evaluations as part of their debris collection operation and/or TDSR site orientation, if needed.

3.5 TRUCK OPERATORS

This includes workers who operate vehicles that transport bulk debris across the County and through the TDSR site. This workforce includes employees from private contractors and force account employees. These workers will be entering and exiting the Exclusion Zone. Table 5 below identifies the potential hazards associated with truck operation and recommended controls to be taken to reduce the possibility of injury.

Principal Tasks	Potential Hazards	Recommended Controls
Equipment mounting and dismounting	1) Exposure to noise in excess of 87.5dBA.	Use of hearing protection with an adequate noise reduction rating to be determined from exposure monitoring.
	2) Slips, trips, and fall hazards.	Use of 3 point mounting techniques and proper footwear.
	3) Contusion from frame of cab.	Use of hard hat and safety belts
	4) Injury from other vehicles.	Proper equipment spacing and training.
	5) Exposure to asbestos and other chemical agents.	Exposure assessment through monitoring, use of respiratory protection.
	6) Exposure to heat/cold stress.	Inclusion into heat/cold stress program.
Movement of trucks along designated roads as well as around debris piles, sifting equipment. Discharge of load at designated location.	1) Exposure to noise in excess of 87.5dBA (open cab only)	Use of hearing protection with an adequate noise reduction rating to be determined from exposure monitoring.
	2) Injury by flying debris	Use of safety glasses and hard hats.
	3) Exposure to asbestos and other chemical agents.	Exposure assessment through monitoring, use of respiratory protection and protective suits.
	4) Injury to others from operational hazards of the equipment.	Ensure people, equipment and materials are not unknowingly in the immediate radius of the discharged load.

Table 5 – Truck Potential Hazards

Equipment to be used:

Hearing protection (level to be determined based on noise exposure monitoring), $^1/_2$ face negative pressure respirators with HEPA/OV filters, hard hats, eye protection, protective footwear as required in EM 385-1-1, 05.A.08, high visibility orange reflective vests, warm clothing.

Inspection requirements:
Daily inspection of all listed equipment should take place prior to donning. Equipment should be inspected for integrity and completeness.

Training requirements:
Truck operators are contractor employees or force account employees. Unless otherwise noted, operators will be offered to receive initial respiratory training, fit testing, and limited medical evaluations as part of their debris collection operation and/or TDSR site orientation, if needed.

3.6 MECHANICAL SEPARATOR SORTERS

This includes workers sifting through debris being ejected from the various mechanical separators. This workforce includes contractor and force account employees. These workers will be in the Exclusion Zone. Table 6 below identifies the potential hazards associated with mechanical separator sorter operation and recommended controls to be taken to reduce the possibility of injury

Principal Tasks	Potential Hazards	Recommended Controls
Equipment mounting and dismounting	1) Exposure to noise in excess of 87.5dBA.	Use of hearing protection with an adequate noise reduction rating to be determined from exposure monitoring.
	2) Slips, trips, and fall hazards.	Use of 3 point mounting techniques and proper footwear.
	3) Contusion from frame of cab.	Use of hard hat and safety belts
	4) Injury from other vehicles.	Proper equipment spacing and training.
	5) Exposure to asbestos and other chemical agents.	Exposure assessment through monitoring, use of respiratory protection.
	6) Exposure to heat/cold stress.	Inclusion into heat/cold stress program.
Manually sift through debris.	1) Exposure to noise in excess of 87.5dBA.	Use of hearing protection with an adequate noise reduction rating to be determined from exposure monitoring.
	2) Exposure to asbestos and other airborne chemicals	Use of respiratory protection and protective suits.
	3) Being hit by moving vehicles	Use of high visibility clothing and reflective vests.
	4) Being hit by projectiles	Use of hard hats, eye protection and safety boots
	5) Heat/cold stress	Inclusion into heat/cold stress program
	6) Repetitive motion disorders.	Task rotation and education.
	7) Fall hazard when working on scaffolds	Installation of handrails and toe guards as per EM 385-1-1,21.B.01

Table 6 – Mechanical Separators Potential Hazards

Equipment to be used:

Hearing protection (level to be determined based on noise exposure monitoring), $^1/_2$ face negative pressure respirators with HEPA/OV filters, hard hats, eye protection, protective clothing and footwear as required in EM 385-1-1, 05.A.08, high visibility orange reflective vests, warm clothing.

Inspection requirements:

Daily inspection of all listed equipment should take place prior to donning. Equipment should be inspected for integrity and completeness.

Training requirements:
Mechanical Separator sorters are assigned to the project on a rotational basis. Sorters will receive initial respiratory training, fit testing, and limited medical evaluations, as a part of their debris collection operation and/or TDSR site orientation. Additional safety training should take place for individual pieces of mechanical sorting equipment.

3.7 TORCH CUTTERS

This includes personnel performing torch cutting on structural steel. This workforce includes employees from private contractors. Table 7 below identifies the potential hazards associated with Torch Cutter operation and recommended controls to be taken to reduce the possibility of injury.

Principal Tasks	Potential Hazards	Recommended Controls
Accessing material to be cut	1) Exposure to noise in excess of 87.5dBA.	Use of hearing protection with an adequate noise reduction rating to be determined from exposure monitoring.
	2) Slips, trips, and fall hazards.	Use of 3 point mounting techniques and proper footwear.
	3) Injury by flying debris.	Use of hard hat and safety belts
	4) Injury from other vehicles.	Proper equipment spacing and training.
	5) Exposure to asbestos and other chemical agents.	Exposure assessment through monitoring, use of respiratory protection.
	6) Exposure to heat/cold	Inclusion into heat/cold stress program.
Cutting material (Continue on page Z-15)	1) Exposure to noise in excess of 87.5dBA.	Use of hearing protection with an adequate noise reduction rating to be determined from exposure monitoring.
	2) Exposure to airborne asbestos.	Use of respiratory protection.

(Continuing table from page Z-14)

Principal Tasks	Potential Hazards	Recommended Controls
Cutting materials (continue)	3) Possible exposure to other airborne contaminants including fumes from the torch cutting operations.	Assessment to other chemicals including metal fumes.
	4) Being hit by moving vehicles.	Use of high visibility clothing and reflective vests.
	5) Being hit by projectiles.	Use of hard hats, eye protection and safety boots.
	6) Heat/cold stress.	Inclusion into heat/cold stress program.
	7) Burns.	Use of welding protective clothing.
	8) Foot injury from falling cut material.	Training on proper positioning of material being cut
	9) Potential explosive environment due to the potential accumulation of methane	Prior to cutting, verify that area is well ventilated and test cutting area with LEL.

Table 7 – Torch Cutters Potential Hazards

Equipment to be used:

Hearing protection (level to be determined based on noise exposure monitoring), *V** face negative pressure respirators with HEPA/OV filters, hard hats, eye protection/full face shield, protective footwear as required in EM 385-1-1, 05.A.08, high visibility orange reflective vests, warm clothing, welding clothing.

Inspection requirements:

Daily inspection of all listed equipment should take place prior to donning. Equipment should be inspected for integrity and completeness.

Training requirements:
Torch Cutters receive job specific training as a part of their individual job certification. Additionally, cutters will receive debris collection operation or TDSR site indoctrination, and will be offered respiratory protection training, fit testing, and limited medical evaluations, if needed.

3.8 DEBRIS COLLECTION/TDSR SITE MANAGERS AND FIELD SUPPORT PERSONNEL

This includes debris collection operation and TDSR site personnel who provide a variety of ancillary and oversight services in support of the operators of heavy equipment and sorters. Many of these job functions require intermittent entry into the Exclusion Zone ***(Contaminated Debris)***. This includes employees from all agencies present at debris collection and TDSR sites. Table 8 below identifies the potential hazards associated with debris collection operation and TDSR site managers and field support personnel and recommended controls to be taken to reduce the possibility of injury

Principal Tasks	Potential Hazards	Recommended Controls
Periodic and/or continuous inspection of the debris collection and TDSR sites; walking the debris collection and TDSR sites	1) Exposure to noise in excess of 87.5dBA.	Use of hearing protection with an adequate noise reduction rating to be determined from exposure monitoring.
	2) Injury by flying debris and/or falling debris.	Use of safety glasses, hard hats, foot protection.
	3) Slips, trips, and fall hazards.	Minimize hazards throughout debris collection and TDSR sites.
	4) Injury by vehicles.	Use of reflective vests.
	5) Exposure to asbestos and other chemical hazards.	Use of respiratory protection, assessment for asbestos and other potential chemical hazards.

Table 8 – Debris Collection/TDSR Site Managers and Field Support Personnel Potential Hazards

Equipment to be used:

Hearing protection (level to be determined based on noise exposure monitoring), *Yi* face negative pressure respirators with HEPA/OV filters, hard hats, eye protection, protective footwear as required in EM 385-1-1, 05.A.08, high visibility orange reflective vests, warm clothing.

Inspection requirements:

PPE should be inspected before donning for integrity and completeness.

Training requirements:

Persons inspecting the Exclusion Zone, or inspecting activities taking place in the Exclusion Zone should receive a general debris collection operation or TDSR site indoctrination as well *as* specific hazard control training. Individual agencies at debris collection and TDSR sites may have their own training that will complement the requirements of this plan, including respiratory protection. Operators will be offered to receive initial respiratory training, fit testing, and limited medical evaluations as part of their debris collection operation and/or TDSR site orientation, if needed.

3.9 MECHANICAL CUTTERS

This includes personnel performing using mechanical cutters for cutting metals. This workforce includes employees from private contractors. Table 9 below identifies the potential hazards associated with mechanical cutter operation and recommended controls to be taken to reduce the possibility of injury.

Principal Tasks	Potential Hazards	Recommended Controls
Accessing material to be cut	1) Exposure to noise in excess of 87.5dBA.	Use of hearing protection with an adequate noise reduction rating to be determined from exposure monitoring.
	2) Slips, trips, and fall hazards.	Use of 3 point mounting techniques and proper footwear.
	3) Injury by flying debris.	Use of hard hat and safety belts
	4) Injury from other vehicles.	Proper equipment spacing and training.
	5) Exposure to asbestos and other chemical agents.	Exposure assessment through monitoring, use of respiratory protection.
	6) Exposure to heat/cold	Inclusion into heat/cold stress program.
Cutting material	1) Exposure to noise in excess of 87.5dBA.	Use of hearing protection with an adequate noise reduction rating to be determined from exposure monitoring.
	2) Exposure to airborne asbestos.	Use of respiratory protection.
	3) Possible exposure to other airborne contaminants including metal dust from cutting operations.	Assessment to other chemicals including metal fumes.
	4) Being hit by moving vehicles.	Use of high visibility clothing and reflective vests.
	5) Being hit by projectiles.	Use of hard hats, eye protection and safety boots.
	6) Heat/cold stress.	Inclusion into heat/cold stress program.
	7) Crush hazard from unstable cuts.	Prohibit cutting of material that is not at "zero mechanical state".
	8) Foot injury from falling cut material.	Training on proper positioning of material being cut
	9) Potential explosive environment due to the potential accumulation of methane	Prior to cutting, verify that area is well ventilated and test cutting area with LEL.

Table 9 – Mechanical Cutters Potential Hazards

Equipment to be used:

Hearing protection (level to be determined based on noise exposure monitoring), $^1/_2$ face negative pressure respirators with HEPA/OV filters, hard hats, eye protection/full face shield, protective footwear as required

in EM 385-1-1, 05.A.08, high visibility orange reflective vests, warm clothing, heavy clothing suitable to offer protection against sparks, if necessary.

Inspection requirements:

Daily inspection of all listed equipment should take place prior to donning. Equipment should be inspected for integrity and completeness.

Training requirements:

Mechanical cutters will receive specialized training in the safe use of cutting equipment. Additionally, they will receive debris collection operation or TDSR site indoctrination. Respiratory protection will likely be provided by the individual fire departments, however supplemental site respirator training, fit testing, and limited medical evaluations will be offered, if needed.

3.10 TECHNICIANS/SAFETY MONITORS

This includes personnel conducting industrial hygiene activities (worker exposure monitoring and safety inspections) at debris collection or TDSR sites. Industrial hygiene technicians will be employees of contractors as well as the FBI, the Public Health and Human Resource Department, and USCG. These workers will be intermittently entering and exiting the Exclusion Zone ***(Contaminated Debris)***. Table 10 below identifies the potential hazards associated with technicians and safety monitor operation and recommended controls to be taken to reduce the possibility of injury.

Principal Tasks	Potential Hazards	Recommended Controls
Collection of air samples	1) Exposure to noise in excess of 87.5dBA.	Use of hearing protection with an adequate noise reduction rating to be determined from exposure monitoring.
	2) Injury by flying debris	Use of safety glasses and hard hats.
	3) Exposure to asbestos and other hazardous chemicals, biological and nuclear.	Use of respiratory protection and protective suits. Monitoring of air contaminants.
	4) Injury by vehicles.	Use of reflective vests.
Inspection of Debris Collection and TDSR sites	Exposure to noise in excess of 87.5dBA.	Use of hearing protection with an adequate noise reduction rating to be determined from exposure monitoring.
	Injury by flying debris.	Use of safety glasses and hard hats.
	Exposure to asbestos and other airborne chemicals, biological and nuclear.	Inclusion into respiratory protection program and protective suits. Monitoring of air contaminants.
	Injury by vehicles.	Use of reflective vests.

Table 10 – Technicians/Safety Monitors

Equipment to be used:

Hearing protection (level to be determined based on noise exposure monitoring), ½ face negative pressure respirators with HEPA/OV filters, hard hats, eye protection, protective clothing and footwear as required in EM 385-1-1, 05.A.08, high visibility orange reflective vests, warm clothing.

Inspection Requirements:

PPE should be inspected before donning for integrity and completeness.

Training Requirements:
Persons inspecting the Exclusion Zone ***(Contaminated Debris)***, or inspecting activities taking place in the Exclusion Zone will receive a general debris collection operation or TDSR site indoctrination as well as specific hazard control training. Individual agencies on the debris collection and TDSR sites may have their own training that will complement the requirements of this Plan. Initial respiratory training, fit testing, and limited medical evaluations will be offered to those who need it.

SECTION 4.0 - HAZARD CONTROL PROGRAM

4.1 GENERAL HAZARDS AT MUNICIPAL SOLID WASTE LANDFILLS

There are numerous chemical, physical and biological hazards associated with a TDSR site located at a Municipal Solid Waste (MSW) landfill. The rough terrain could result in numerous physical hazards such as vehicle accidents, slipping, tripping, and falling. Driving vehicles on uneven surfaces creates a potential for possible vehicle roll-overs, hitting rocks and debris, getting stuck in mud or ditches, etc. The steep slopes of the landfill with loose vegetative cover represent possible tripping, falling, and slipping hazards. Heavy truck and equipment traffic, gravel slung by vehicle tires, and debris falling from trucks represent possible projectile hazards to pedestrian workers.

Landfill gas is a potential chemical hazard of concern at MSW facilities. Methane and carbon dioxide are the primary constituents of landfill gas. Landfill gas also contains trace amounts of numerous hazardous air pollutants. Specific chemical hazards that may represent the most significant potential exposure concern are further discussed in Section 4.3, Chemical Hazards.

4.2 PHYSICAL HAZARDS

The two biggest hazards on debris collection and TDSR sites include getting hit or run-over by equipment/trucks and flying or rapidly shifting pieces of debris. Special care should be used when working in the proximity of trucks, equipment to these concerns.

4.2.1 Noise

Noise, associated with the operation of heavy equipment is a potential physical hazard. Exposure to excessive noise levels for prolonged periods of time may result in hearing loss and threshold shifts in hearing sensitivity. Employers will require some workers to wear approved hearing protection when working in or around the debris collection and TDSR sites. Workers operating equipment fitted with a cab designed to reduce sound levels may not be required to wear hearing protection, while in the cab.

Periodic noise evaluations at various locations around work area will be performed. If areas are found to have sound levels in excess of 82.5 decibel weighted in the "A" scale (dBA), noise dosimetry monitoring based on a 12-hour time-weighted average (TWA) will be performed on workers. If the level of noise exceeds the current OSHA Permissible Noise Exposure standard (adjusted for a 12 hour work shift) of 87.5 dBA, personnel will be required to wear approved hearing protection. While the OSHA standard calls for personnel who are exposed to elevated noise to be enrolled in a hearing conservation program, this may not be technically feasible due to the number of transient debris collection operation and TDSR site workers on this project. While this Plan describes minimally acceptable standards for the work, individual agencies and contractors working on the debris collection and TDSR site are encouraged to follow the OSHA standard.

4.2.2 Fire

The local fire department number will be posted at the debris collection and TDSR sites for use in the event of an emergency. No smoking or other actions that create sparks or open flames are permitted within 50 feet radius of fuel tanks and fueling facilities.

4.2.3 Illumination

Illumination levels for various work processes have been specified in EM 358-1-1, Section 07.A.01 and are shown in Table 11 below:

Means of egress- Means of egress shall be illuminated, with emergency and non-emergency lighting, to provide a minimum of 11 lux (lx) (1 footcandle (lm/ft)), measured at the floor. Additionally, illumination shall be arranged so that the failure of any single lighting unit, including the burning out of an electric bulb, will not leave any area in total darkness.

MINIMUM LIGHTING REQUIREMENTS	
Facility or Function	**Illuminance - lx (lm/ft) 2**
Accessways	
General indoor	55 (5)
General outdoor	33 (3)
Exitways, walkways, ladders, stairs	110 (10)
Administrative areas (offices, drafting and meeting rooms, etc.)	540 (50)
Chemical laboratories	540 (50)
Construction areas	
General indoor	55 (5)
General outdoor	33 (3)
Tunnels and general underground	55 (5)
Work areas (minimum 110 lux required at tunnel and shaft heading during drilling, mucking, and scaling)	
Conveyor routes	110 (10)
Docks and loading platforms	33 (3)
Elevators, freight and passenger	215 (20)
First aid stations and infirmaries	325 (30)
Maintenance/operating areas/shops	
Vehicle maintenance shop	325 (30)
Carpentry shop	110 (10)
Outdoor field maintenance area	55 (5)
Refueling area, outdoors	55 (5)
Shops, fine detail work	540 (50)
Shops, medium detail work	325 (30)

MINIMUM LIGHTING REQUIREMENTS (Continuing table from page Z-20)	
Facility or Function	**Illuminance - lx (lm/ft) 2**
Welding shops	325 (30)
Mechanical/electrical equipment rooms	110 (10)
Parking areas	33 (3)
Toilets, wash, and dressing rooms	110 (10)
Visitor areas	215 (20)
Warehouses and storage rooms/areas	
Indoor stockroom, active/bulk storage	110 (10)
Indoor stockroom, inactive	55 (5)
Indoor rack storage	270 (25)
Outdoor storage	33 (3)
Work areas – general (not listed above)	325 (30)

Table 11 – Minimum Lighting Requirements

4.2.4 TDSR Site Vehicle Safety

A TDSR site specific Traffic Plan will be developed following the establishment of the work TDSR site. The Traffic Plan will be issued as an addendum to this document. The purpose of the Traffic Plan is to provide on site personnel and contractors entering the TDSR site with an idea of the traffic flow to optimize movement of vehicular traffic. Safe driving practices should be followed and seat belts worn, when available. Special consideration should be given to the amount of pedestrian traffic and therefore driving speeds should be kept to a minimum. Vehicles if driven after dark shall be equipped with lights. In the event of fog, vehicles should be driven with their lights on.

4.2.5 Heat/Cold Stress

Heat Stress: The purpose of this section is to describe monitoring and control measures to minimize the potential for adverse health effect due to heat stress. This section applies to work being performed outdoors when ambient weather exceeds 75 degrees Fahrenheit measured as a Wet Bulb Globe Temperature (WBGT) as defined by the American Conference of Governmental Industrial Hygienists (ACGIH). Heat stress will be evaluated based on three factors accordingly:

- WBGT base index determined by environmental data.
- Correction of WGBT base index for use of personal protective equipment.
- Correction of WBGT base for variations of work loads.

The resulting WBGT index will be used to calculate a Threshold Limit Value (TLV) as described by the ACGIH, for heat stress. Exceeding the TLV is prohibited, and could result in serious injury or death to workers. When applicable, the WBGT will be monitored by industrial hygiene technicians during both day and night shifts. Data will be evaluated by a Certified Industrial Hygienist (CIH), who will determine the TLV based on the factors listed in this section.

Workers should be instructed to periodically monitor their heart rate during periods of high ambient temperatures, or periods involving heavy work. A maximum, sustained heart rate of 100 beats per minute should result in the temporary removal of a worker from the exclusion zone.

The primary method of minimizing the adverse effects of heat stress will be through the implementation of a work/rest regiment, expressed as a percentage of time out of each hour that a worker can perform their

respective task. The unadjusted TLV for heat stress is presented in Table 12 below. Designated rest areas should be outside of the exclusion zone (no PPE requirements), and should be in an air-conditioned environment. Temperatures are shown as degrees Fahrenheit (°F):

Work/rest regiment	Workload		
	Light	Moderate	Heavy
Continuous Work	86	80	77
75% work/25% rest	87	82	78
50% work/50% rest	89	85	82
25% work/75% rest	90	88	86

Table 12 – Threshold Limit Value Table

Examples of adjustments to these values will be made for personal protective equipment and clothing as follows:

- Summer work uniform - correction of 0 °F.
- Cotton overalls - correction of - 2 °F.
- Winter work uniform - correction of - 4 °F.
- Water barrier, permeable - correction of - 6 °F.

The CIH may calculate TLVs based on collected data according to formulas described. Other control measures, and factors to consider in conjunction with the establishment of a TLV include:

Hydration: Water and electrolyte replenishing beverages will be readily available, and workers will be encouraged to consume these beverages regularly. The intake of fluids should equal the rate of water loss.

Food Consumption: The workers should be encouraged to salt their food well during the hot season and particularly during periods of hot weather. Individuals with restricted diets should consult their physicians prior to alteration of their diets.

Acclimatization: Workers who do not regularly perform physical activities in an outdoor setting may require a further adjustment to the TLVs.

Cold Stress

Four factors contribute to cold stress: cold temperatures, high or cold wind, dampness and cold water. A cold environment forces the body to work harder to maintain its temperature. Cold air, water, and snow all draw heat from the body. Wind chill is the combination of air temperature and wind speed. For example, when the air temperature is 40° F, and the wind speed is 35 mph, your exposed skin receives conditions equivalent to the air temperature being 11° F. So, while it is obvious that below freezing conditions combined with inadequate clothing could bring about cold stress, it is important to understand that it can also be brought about by temperatures in the 50's coupled with rain and wind.

When in a cold environment, most of your body's energy is used to keep your internal temperature warm. Over time, your body will begin to shift blood flow from your extremities (hands, feet, arms, and legs) and outer skin to the core (chest and abdomen). This allows exposed skin and the extremities to cool rapidly and increases the risk of frostbite and hypothermia. Combine this with cold water, and trench foot may also be a problem.

The purpose of this section is to describe monitoring and control measures to prevent adverse health effect due to cold stress. This section applies to work being performed outdoors when ambient weather falls below 45 degrees Fahrenheit.

Cold stress will be evaluated based on a standard wind chill table, as described in the US Army Corps of Engineers (USACE) Safety and Health Requirements (EM 385-1-1), Section 06.J.

When ambient temperatures fall below 45 °F, the environmental monitoring of temperature will be performed twice each shift. When ambient temperatures fall below 30 °F, environmental monitoring of temperatures will be performed every 4 hours. Air speed will be recorded at the same frequencies as temperatures. The data will be used to evaluate risks based on the wind chill table referenced above. Temperature readings and subsequent evaluations of data will be collected from different work environments around the debris collection and TDSR sites. These will include, by may not be limited to:

- Outside, unprotected work areas.
- Sheltered locations that are not heated.
- Sheltered areas that are heated.

The primary methods of controlling the adverse effects of cold stress are listed below:

Clothing: The use of clothing, especially head, foot, and nose, hand coverings will typically provide adequate protection in most anticipated cold stress situations.

Work/Warm up regiment: Workers should be instructed to seek warm shelter if they start to experience shivers, or numbness in their extremities.

Hydration: Warm, non-caffeine, drinks should be readily available. Workers should be encouraged to consume warm liquids throughout their work shift.

Hypothermia: Hypothermia is an abnormal and dangerous condition in which the temperature of the body is below 95 degrees Fahrenheit (35 degrees Centigrade). Hypothermia is usually caused by prolonged exposure to cold. When more heat is lost than the body can generate, hypothermia can result. Common causes include:

- Falling overboard from a boat into cold water.
- Being outside with an uncovered head in winter.
- Wearing wet clothing for a prolonged period of time in windy weather, heavy exertion, or poor fluid or food intake. This can also cause hypothermia even in above-freezing temperatures.

The onset of symptoms is usually slow; there is likely to be a gradual loss of mental acuity and physical ability. The person experiencing hypothermia, in fact, may be unaware that he or she is in a state that requires emergency medical treatment. Symptoms include:

- Apathy or lethargy.
- Confusion.
- Drowsiness.
- Loss of coordination.
- Pale and cold skin.
- Shock
- Slowing of breathing.
- Slurred speech.
- Uncontrollable shivering.
- Weakness.

The people most likely to experience hypothermia are those who are very old, very young, or very lean; those who have heart or circulation problems; and people who are hungry, tired, or under the influence of alcohol or other drugs. Hypothermia is one of the body's remarkable responses to cold and can actually protect the brain and heart.

If the victim has both hypothermia and frostbite, give first aid for the hypothermia first.

- If the victim is conscious and you suspect hypothermia, get the victim out of the cold and seek on site medical attention. Handle the victim gently. People with hypothermia are at risk for cardiac arrest.
- If going indoors is not possible, get the victim out of the wind, cover their head, and insulate them from the cold ground. If at all possible, get the victim inside to an area at room temperature and cover them with warm blankets.
- Once inside, take off any wet or constricting clothes and replace them with dry clothing.
- Warm the victim. Cover the head and neck. Apply warm compresses to the neck, chest wall, and groin. If the victim is alert and can easily swallow, give warm, sweetened fluids (nonalcoholic) to aid in the warming process.
- Stay with the victim until medical help arrives.
- Immediately seek or contact emergency medical assistance.
- **DO NOT** use your own comfort to decide if an area is warm enough, since people respond differently to cold.
- **DO NOT** attempt to warm a severely hypothermic person without medical advice.
- **DO NOT** use direct heat (such as hot water, a heating pad, or a heat lamp) to warm the victim.
- **DO NOT** give the victim alcohol!

Knowing that frostbite and hypothermia are closely related is important to helping to mitigate factors that can contribute to frostbite. These factors include extreme cold; wet clothes; high winds ("wind chill"); and poor circulation, which can be caused by tight clothing or boots, cramped positions, fatigue, certain medication, smoking, alcohol use, or diseases that affect the blood vessels, such as diabetes, poor fluid intake (fluid imbalance), and inadequate food. Wear suitable clothing in cold temperatures and protect susceptible areas. In cold weather, wear mittens (not gloves); wind-proof, water-resistant, many-layered clothing; two pairs of socks (cotton next to skin, then wool); and a scarf and a hat that cover the ears (to avoid substantial heat loss through the scalp). Before anticipated prolonged exposure to cold, don't drink alcohol or smoke (both interfere with blood circulation), and get adequate food and rest. If caught in a severe snowstorm, find shelter early.

Frostbite: Frostbite is damage to the skin and underlying tissues caused by extreme cold. Frostbite occurs when the skin and body tissues are exposed to cold temperature for a prolonged period of time. Hands, feet, nose and ears are most likely to be affected. Although anyone who is exposed to freezing cold for a prolonged period of time can get frostbite, people who are taking beta-blockers, which decrease the flow of blood to the skin, are particularly susceptible. So are people with atherosclerosis (a disorder of the arteries). Other things that increase the risk of frostbite include smoking, windy weather (which increases the chill factor), diabetes mellitus, and peripheral neuropathy or Raynaud's phenomenon.

The first symptoms are a "pins and needles" sensation followed by numbness. Frostbitten skin is hard, pale, cold, and has no feeling. When skin has thawed out, it becomes red and painful (early frostbite). With more severe frostbite, the skin may appear white and numb (tissue has started to freeze). Very severe frostbite may cause blister; gangrene (blackened tissue that died after blood vessels froze); or hard, frozen skin (frostbite can penetrate all the way down to blood vessels and bone).

A person with frostbite on the extremities may also be subject to hypothermia (lowered body temperature). Check for hypothermia and treat those symptoms first. Frostbite is distinguishable by the hard, pale, and cold quality of the skin that has been exposed to the cold for a length of time. The area is likely to lack sensitivity to touch, although there is probably a sharp, aching pain. As the area thaws, the

flesh becomes red and painful. Any part of the body may be affected by frostbite; but hands, feet, nose and ears are the most vulnerable. If only the skin and underlying tissues are damaged, recovery may be complete. However, if blood vessels are affected, the damage is permanent and gangrene can follow which may necessitate amputation of the affected part.

Upon warming, it is common to experience pain and tingling or burning in the affected area. In addition, blisters (in severe cases), shivering, slurred speech, and some memory loss may occur.

Typical first aid includes:

- Shelter the victim from the cold and move the victim to a warmer place. Remove any constricting jewelry and wet clothing.
- Immerse affected areas in warm (NOT HOT) water-or apply warm cloths to affected ears, nose, or cheeks-for 20 to 30 minutes. Keep circulating the water to aid the warming process. Burning pain, swelling and color changes may occur during warming. Warming is complete when the skin is soft and sensation returns.
- Apply dry, sterile dressing to the frostbitten areas. Put dressings between frostbitten fingers or toes.
- Move thawed areas as little as possible.
- Prevent refreezing by wrapping the warmed areas.
- If the frostbite is extensive, give warm drinks to the victim in order to replace lost fluids.
- Immediately Seek or Contact On site Emergency Medical Assistance
- **DO NOT** thaw out a frostbitten area if it cannot be kept thawed. Refreezing may make tissue damage even worse.
- **DO NOT** use direct heat (such as a radiator, campfire, heating pad, or hair dryer applied directly to the frostbitten area). Direct heat can burn the tissues that are already damaged.
- **DO NOT** rub or massage the affected area.
- **DO NOT** disturb blisters on frostbitten skin.
- **DO NOT** smoke or drink alcoholic beverages during recovery as both interfere with blood circulation.

By being aware of the factors that can contribute to frostbite, potential exposure can be minimized. These include extreme cold; wet clothes; high winds; and poor circulation, which can be caused by tight clothing or boots, cramped positions, fatigue, certain medication, smoking, alcohol use, or diseases that affect the blood vessels, such as diabetes. Wear suitable clothing in cold temperatures and protect susceptible areas. In cold weather, wear mittens (not gloves); wind-proof, water-resistant, many-layered clothing; two pairs of socks (cotton next to skin, then wool); and a scarf and a hat that cover the ears (to avoid substantial heat loss through the scalp).

Before anticipated prolonged exposure to cold, don't drink alcohol or smoke, and get adequate food and rest. If caught in a severe snowstorm, find shelter early or increase physical activity to maintain body warmth.

Trench Foot

Trench foot is a condition of the feet resembling frostbite due to the prolonged action of water on the skin combined with circulatory disturbance due to cold and inaction. Seek on site medical assistance. Keeping feet dry and warm by wearing waterproof boots and dry socks will likely minimize conditions that may contribute to trench foot.

Fatigue

Due to the demanding nature and long hours associated with this operation, worker fatigue should be assessed regularly by agencies/contractors to minimize potential for injury. Fatigue is defined as a feeling of lack of energy, weariness or tiredness. Possible causes of fatigue include:

- Chronic boredom.
- Chronic infection/sickness.
- Drugs such as antihistamines, antihypertensives, sedative, or diuretics.
- Excessive physical exertion.
- Poor nutrition.
- Anxiety and depression.
- Grief
- Stress (prolonged or severe).
- Other medical conditions.

There are no direct cures for the most common fatigue problems. Taking a vacation, changing jobs or tasks, undertaking new activities or dealing with home-related issues may help. A balanced diet, a program of regular exercise (within prescribed limits), and adequate rest are generally recommended. Alleviating pain, which may interfere with rest, and nausea (if present), can often reduce chronic fatigue. Taking medication may make the condition worse when the drugs are discontinued.

4.2.6 Lockout/Tagout Program

Maintenance activities involving fixed and mobile equipment will be done with the equipment tagged and locked out. The following conditions should be met:

- Controls that are to be deactivated during the course of work on energized or de-energized equipment or circuits shall be tagged.
- Equipment or circuits that are de-energized shall be rendered inoperative and shall have tags attached at all points where such equipment or circuits can be energized.
- Tags shall be placed to identify plainly the equipment or circuits being worked on.

4.2.7 Conveyors

General: Conveyor systems shall be constructed and installed in accordance with the manufacturer's recommendations.

Inspection, Maintenance, and Repair: Qualified personnel shall perform inspection, maintenance, and repairs in accordance with the manufacturer's recommendations. No maintenance shall be performed when a conveyor is in operation except for the following:

- If lubrication is to be done while the conveyor is in motion, lubrication points shall be easily accessible and safe for lubrication: only trained personnel who are aware of the hazards of the conveyor in motion shall be allowed to lubricate a conveyor that is operating.
- When adjustments or maintenance is required while the conveyor is in operation, only trained personnel who are aware of the hazards shall be permitted to make the adjustment or maintenance.
- Lockout and tagout procedures shall be used.
- Safe access shall be provided to permit inspection, lubrication, repair, and maintenance activities.

Safety devices: On all conveyors where reversing or runaway are potential hazards or the effects of gravity create a potential for hazardous uncontrolled lowering, anti-runaway devices, brakes, backstops, or other safeguards shall be installed to protect persons from injury and property from damage.

Conveyor systems shall be equipped with an audible warning signal to be sounded immediately before starting of the conveyor.

All conveyors shall be equipped with emergency stopping devices along their full length.

Safety devices shall be arranged to operate in such a manner that if power failure or a failure of the device occurs a hazardous condition would not result.

All exposed moving machinery parts that present a hazard shall be mechanically or electrically guarded or guarded by location.

Take-up mechanisms may be guarded as an entity by placing standard railings or fencing, and warning signs, around the area in lieu of guarding each of nip and shear point.

- Guards shall be provided at points where personnel could contact cables, chains, belts, and runaways of exposed bucket conveyors.
- Unless guarded by location, those sections of chain conveyors, which cannot be enclosed without impairing the function, shall be provided with warning signs or personnel barriers.
- At all points along the conveyor, except at points where loads are removed from or placed on a conveyor or where a conveyor discharges to or receives material from another conveyor, provisions shall be made to eliminate the possibility of loads or material being dislodged from the conveyor.

Access: Whenever conveyors pass adjacent to, or over, work areas, protective guards shall be installed. The guards shall be designed to catch and hold any load or material that may fall off or become dislodged from the system.

Where conveyors are operated in tunnels, pits, and similar enclosures, ample room shall be provided to allow safe access and operating space for all personnel.

Emergency Stop Devices

Unless the design, construction, and operation of a conveyor is clearly non-hazardous to personnel, emergency stop buttons, pull cords, limit switches, or similar emergency devices shall be provided at the following locations for remotely or automatically controlled conveyors or conveyors where operator stations are not manned of are beyond voice and visual contact from drive areas:

- Loading arms.
- Transfer points.
- Other potentially hazardous locations on the conveyor path not guarded by location or guards.

All emergency stop devices shall be easily identifiable and readily accessible. Emergency stop devices shall act directly on the control of the conveyor concerned and shall not depend on the stopping of any other equipment. Emergency stop devices shall be installed so that they cannot be overridden from other locations.

Conveyor controls shall be arranged so that in case of an emergency stop, manual reset or restart is required at the location where the emergency stop was initiated to resume conveyor operations.

Control stations shall be arranged and located so that the operation of the equipment is visible from them. Controls shall be clearly marked or labeled to indicate the function controlled.

Portable Conveyors

The raising and lowering mechanism for the boom of a portable conveyor shall be provided with a safety device, which will hold boom at any rated angle of inclination.

Portable conveyors shall be stable so that the conveyor will not topple when used with the manufacturer's rating and in a manner in which it was intended or when being moved.

Operation-Conveyor equipment shall be used to convey only those materials for which it was designed and within the rated capacities and speeds.

Flight and apron conveyors shall be "jogged" or hand run through at least one complete revolution at installation to check design clearances prior to running under automatic power.

A conveyor that could cause injury when started shall not be started until all personnel in the area are alerted by a signal or by a designated person that the conveyor is about to start.

When a conveyor that could cause injury when started is automatically controlled or must be controlled from a remote location, an audible warning device shall be provided. The device shall be clearly audible at all points along the conveyor where personnel may be present. The warning device shall be activated by the controller device that starts the conveyor and shall continue for a period of time before the conveyor starts; a flashing light or similar visual warning shall be used with the audible device when conditions limit the effectiveness of the audible device.

Before restarting a conveyor that has been stopped because of an emergency, an inspection of the conveyor shall be conducted and the cause of the emergency stop determined.

Only trained personnel shall be permitted to operate a conveyor: training shall include instruction in operation under normal conditions and in emergencies.

The area around loading and unloading points shall be kept clear of obstructions that could create a hazard. Riding on conveyors is prohibited.

Personnel working with or near a conveyor shall be:

- Instructed as to the location and operation of pertinent stopping devices, and alerted of the potential hazard of entanglement in conveyors caused by such items as loose clothing and jewelry and long hair.
- Only trained personnel shall track a conveyor belt, which must be done while the conveyor is operating.
- Preformed concrete barriers, bollards, or other physical barriers should be installed in such a fashion that if the barriers are impacted and knocked over, they will not strike the well head.
- High visibility flags should be extended above the well head to a height that will able to be seen by mechanical equipment operators. Flags should be mounted to poles.
- Blinking lights should be included on the flagpoles at night for additional visibility.

In the event a gas line is damaged during on site work, equipment and personnel should be removed from the area, barriers installed, officials contacted, and access to the area restricted until the problem has been fixed.

4.2.8 Grounding and Lightning

Grounding of electrical equipment, generators, and on site structures shall be grounded in accordance with Section 11 of EM 385-1-1. All installations shall comply with applicable National Electrical Safety Code (NESC), National Electrical Code (NEC), and United States Coast Guard regulations. On site structures need to be grounded in the event of lightning strikes and static discharges. The following general guidelines are provided in addition to EM 385-1-1:

Sprung Structures: The Sprung Structures would normally be grounded by means of the two rods at each column base that are driven 5 feet into the ground. If the Jersey barriers are used it would be recommended that one rod at each column base be driven into the ground and welded to the column base.

Portable Office Trailers: These structures should be anchored to the ground by means of a hurricane anchor fastened to the frame of the trailer. This serves a dual purpose of overturning protection from wind and grounding.

Portable Equipment: Equipment that is not on rubber wheels should be grounded to protect the equipment operator and the equipment.

Electrical Systems: Electrical systems providing power to buildings and trailers should be properly grounded in accordance with NEC Standards.

4.2.9 Confined Spaces

A Confined space is a space that:

- Is large enough and so configured that an employee can bodily enter and perform assigned work.
- Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.).
- Is not designed for continuous employee occupancy.

The potential presence of methane and hydrogen sulfide as components of landfill gas, and the presence of structures, which have no floor, creates a potential for these two gases to accumulate in these open-bottom structures. Additionally, there are other trailer-type facilities established on site. However, these conditions/spaces do not meet the formal definition described above definition from 29 CFR 1910.146. Furthermore, it is not likely that the normal sorting/sifting operation creates conditions for permit-required confined spaces. It should be recognized that these gases could accumulate in the structures and therefore creates a need for continuous monitoring. Continuous LEL/Hydrogen Sulfide monitors will be installed in all operational structures on the top of the landfill. Additionally, on site workers should be aware that hydrogen sulfide, methane/carbon dioxide (landfill gas mixture) could accumulate in low-lying areas of the landfill. Care should be taken when working in low lying areas and monitoring should be conducted especially when air circulation is minimal.

4.3 CHEMICAL HAZARDS *(Contaminated Debris)*

4.3.1 Asbestos

Asbestos may be detected in both bulk dust samples and air samples. As a result, the potential of exposure to workers exposed to particulate debris may be a potential concern. Unfortunately, the non-homogeneous characteristics of the waste stream will make it very difficult to conduct a negative exposure assessment since the composition of the waste stream may change daily, depending on the characteristics of the materials.

Asbestos management programs for the proper identification, removal, disposal, and air monitoring of asbestos projects by licensed firms and individuals will be followed. The standards designated to address the identification and removal of "in-place" asbestos containing materials (ACM) will be followed. The primary concern of this plan is to assess exposure of workers to potential asbestos-containing debris. PPE and engineering controls will be used to minimize potential worker exposure and personnel air monitoring should be conducted to assess PPE effectiveness.

4.3.2 Silica Dust and Particulate Matter Not Otherwise Specified

Silica dust created by the pulverization of construction material presents a potential inhalation hazard to workers involved in the transfer and handling of debris.

Particulate mater not otherwise specified (NOS) includes non-silica containing dust, as well as general airborne particles. The primary source of this material will be from debris being handled.

Based on the above, initial worker exposure evaluations will be conducted for the following landfill gas constituents:

- Methane.
- Hydrogen sulfide.
- Aldehydes.
- Benzene and other volatile aromatic hydrocarbons.
- Vinyl chloride and other volatile organic halocarbons.
- Other constituents as deemed necessary based on information obtained regarding the composition of the landfill gas entering the gas treatment system.

4.3.3 Other Chemical Agents

It is possible that other chemical agents may be present in the debris being brought to the TDSR site for handling and processing. Metals can be present as unique particles originating from painted material as well as metal-containing material. The transfer and handling of the debris may result in the generation of airborne metal dust, some of which may be respirable. Due to the non-homogenous nature of the debris, the risk of metal exposure will constantly fluctuate, and therefore, a monitoring program should be developed and enacted for the duration of the project.

Numerous organic compounds may be found in the debris as a result of the fires. While this class of chemicals does not readily form gasses, they can become airborne through the physical handling process of contaminated materials. Furthermore, they can become attached to airborne particles (dust), which can then result in an inhalation exposure.

The risk presented by other chemical agents, at this time, is believed to be minimal. However, since the debris is non-homogeneous, monitoring for worker exposure should be conducted throughout the project duration to obtain statistically significant documentation that these potential risks are insignificant.

4.4 BIOLOGICAL HAZARDS *(Contaminated Debris)*

The presence of biological remains does not present a significant potential hazard with respect to pathogenic agents. The potential hazard from pathogenic organisms will decrease over time, as agents are exposed to ambient conditions and commingled with the debris piles. This section describes potential biological hazards associated with the planned sorting activities, where operators and ground workers may come in contact with biological remains. The following biological hazards may exist on the project debris collection and TDSR sites:

- Opportunistic biological agents associated with bacteria and fungi that will amplify in the wet conditions on the debris collection and TDSR sites. High cellulose and nitrogen containing debris will serve as a nutrient source for various environmental bacteria and fungi. Exposure to these may cause mild to severe allergic reaction in susceptible workers. In rare and unique situations, exposure to these agents could result in disease.
- Blood-borne pathogens and vermin.

4.4.1 Route of Exposure

The primary route of exposure to biohazards is dermal injection through infections from cuts with an object contaminated with blood, body fluids, tissue, or from contact with vermin. Other routes of infection from contaminated objects are through the eyes, nose, or mouth or areas of broken skin or by ingestion, which may be facilitated by hand-to-mouth contact. Based on the potential routes of exposure, the focus of worker protection

will be to promote the use of Universal Precautions, which includes PPE and personal hygiene. Since exposure standards for biological agents do not exist, and because there are a large number of variables effecting the presence and propagation of biological agents in the remains, air, and/or water samples to confirm the presence of infectious agents will not be collected on a routine basis. Should the need arise under specific circumstances; a sampling protocol can be developed to assess worker exposure as well as the presence of infectious agents in debris, air, water or soil.

4.5 OTHER TDSR SITE HAZARDS

4.5.1 Helicopter Landing Area

The agency managing the helicopter landing area will retain operational safety. General safety items for TDSR site workers not directly involved with the helicopter landing area include unauthorized personnel should maintain a distance of at least 100 meters from the landing area.

4.6 PERSONAL PROTECTIVE EQUIPMENT (PPE)

This section will describe the general requirements of the EPA designated levels of protection (A-D) and the specific levels of protection required for each task at the debris collection and TDSR sites. The following PPE and hygiene procedures are offered at the debris collection and TDSR sites:

Universal Precautions: Workers will be instructed to assume that a significant health risk is present at all times during the project, and will be required to use available PPE and work practices when on the debris collection and TDSR sites. Workers will be instructed on the use of universal precautions through on-site training conducted by the CIH.

Equipment Disinfecting: Workers will be provided with anti-bacterial detergent and instructed on the proper methods of equipment disinfecting. Specifically, seats and interior surfaces on the machine cabs will be disinfected once per shift or if visible liquid is observed.

4.6.1 Levels of Protection

Personnel will wear protective equipment when activities involve known or suspected atmospheric contamination, vapors, gases or particulate that may be generated by debris collection operations and TDSR site activities. When direct contact with skin-affecting substances may occur, personnel will wear protective clothing.

All debris collection operation and TDSR site personnel will be required to wear level D personal protective equipment. This will include the following:

- Safety glasses Hard Hats
- Protective Footwear as required in EM 385-1-1, 05.A.08 Safety Vests
- Hearing protection

Additional levels of PPE including the use of air purifying respirators as well as foot, hand and body coverings are required when entering the exclusion zone. Table 13 summarizes the appropriate level of PPE for the various control areas described in Section 2 of this document.

Area	Activity Description	Required PPE
Landfill Entry	Entry monitoring to the landfill.	Street clothes. Thermal conditions should be considered.
Exclusion Zone	Handling and transfer of material, mechanical separation, and hand sorting of material.	▪ Hard hat. ▪ Hearing protection. ▪ Eye protection. ▪ Respiratory protection (OV/HEPA). ▪ Disposable suite. ▪ Gloves ▪ Protective footwear. ▪ Thermal conditions should be considered. ▪ High visibility vests in areas of high vehicular traffic, and during periods of snow.
Non-regulated Zone	Logistical support including storage and distribution centers for equipment, Forensic stations for various agencies, vehicle parking, mess area activities, management trailers, sprung structures.	▪ Hard hat. ▪ Hearing protection in designated areas. ▪ Eye protection. ▪ Protective footwear. ▪ Thermal conditions should be considered. ▪ High visibility vests in areas of high vehicular traffic, and during periods of snow.
Designated Traffic Zone	Movement of trucks and other vehicles around the landfill. This includes both operators and pedestrians.	For Operators: ▪• Protective footwear. For Pedestrians: ▪ Hard hat. ▪ Hearing protection in designated areas. ▪ Eye protection. ▪Protective footwear. ▪High visibility vest. ▪Thermal conditions should be considered.
Personal Hygiene Station	Facilitating personal hygiene needs of debris collection and TDSR site personnel.	Street clothes. Thermal conditions should be considered.
Vehicle Washdown Station (Continue on page Z-33)	Facilitating removal of dirt and debris from exterior of vehicles.	▪ Hard hat. ▪ Hearing protection in designated areas. ▪ Face Shield. ▪ Protective footwear.

		▪ Thermal conditions should be considered. ▪ High visibility vests in areas of high vehicular traffic, and during periods of snow.

Table 13 – Appropriate Level of PPE

4.7 MONITORING

4.7.1 Air Monitoring *(Contaminated and Non-Contaminated Debris)*

This section describes the collection, analysis and interpretation of personal exposure monitoring air samples. Air samples should be taken around the debris collection and TDSR site perimeters on a regular basis. Data from the perimeter monitoring will be posted on a regular basis, and will be available from the USEPA representative.

The purpose of personnel exposure monitoring is to assess individual exposures to chemicals that occur during work shifts while workers are performing a defined work activity. Data collected is compared to established time weighted averages, based on 8-hour work shifts, promulgated by the Occupational Safety and Health Administration (OSHA), or other industry-recognized organizations. These standards are health-based, and are typically considered the concentration below which a worker could be exposed to without experiencing adverse health effects. Since the project requires 12-hour work shifts, it will be necessary to adjust exposure criteria appropriately. This may include the adjustment of the allowable exposure limit, or adjusting air data to compensate for the longer work shift.

Methods: The potential of worker exposure is dependent on several key variables:

Work activities: The establishment of job classifications will be used to assess different groups of workers having similar potential exposure issues. Assessment of work groups will be periodically reviewed and may be re-defined as process methods are modified. Potential parameters may vary from one work group to another, and therefore, the chemical parameters being sampled for may vary between different work groups. The following work groups have been identified:

- **Hand Sorters:** This includes workers using hand tools to manually sift through debris on the ground.
- **Grapple Operators:** This includes workers operating equipment used to load debris onto mechanical separators.
- **Loader Operators:** This includes workers operating front end loaders.
- **Bulldozer Operators:** This includes workers operating bulldozers.
- **Truck Operators:** This includes workers who operate vehicles that transport bulk debris through the debris collection and TDSR sites.
- **Mechanical Separator Sorters:** This includes workers sifting through fine debris being ejected from the various mechanical separators.
- **Debris Collection and TDSR Site Managers:** This includes personnel who will have intermittent exposure based on their proximity to operations involving the handling of material. For the most part, this includes personnel who spend a significant amount of time in trailers, but also spend time in the field.
- **Torch Cutters:** This includes personnel performing cutting operations.

- **Field Support Personnel:** This includes workers who spend the majority of their time near operations that may result in direct exposures.
- **Mechanical Cutters:** This includes personnel performing manual cutting of damaged vehicles brought to the landfill.
- **Perimeter Support Personnel:** This includes personnel who have limited exposure potential because they spend most of their shift in trailers, or in areas near the perimeter of the debris collection and TDSR sites.
- **Personal Hygiene Specialists and Safety Monitors:** This includes personnel who are assigned to decontamination activities such as personnel decontamination as well as vehicle decontamination.

Homogeneity of Material: The amount of a hazardous agent involved with a process is directly proportional to the potential for worker exposure to that parameter. If the concentration of a parameter is constant in a given process (homogeneous), it can be assumed that the exposure to the parameter will also be constant. In this situation, exposure monitoring conducted over a relatively short period of time (several work shifts) can be used to create a negative exposure assessment. The subject work of this project does not involve the processing of material with a homogeneous concentration of potential hazardous agents. As such, air-sampling frequencies will have to anticipate fluctuations associated with potential hazardous agents in the waste stream.

Ambient Conditions: Temperature, wind, and relative humidity will impact worker exposure. The exact impact of these factors is difficult to predict, and therefore, air samples will be collected over a variety of different ambient conditions.

Individual Work Practices: The subject work of this project is labor-intensive, and requires constant hand manipulation of materials that may contain hazardous agents. While the overall work process should be considered standardized, there exists variations in individual work methods that may influence exposures. To minimize this influence, multiple samples will need to be collected from workers within each work group.

Air samples will be collected following current methods established by the National Institute for Occupational Safety and Health (NIOSH). If the event that NIOSH methods do not exist, or are deemed not practical for an application, an alternative method will be used. The alternative method will require validation by the laboratory conducting the analysis, and will have to produce sufficient written documentation to that effect.

Exposure monitoring will encompass a combination of qualitative grab samples, short term, and whole shift monitoring as described below:

Grab samples: Direct reading instruments and colorimetric detector tubes may be used to screen work activities for chemical parameters. While a useful tool for establishing sampling parameters, this type of sampling will not be used to establish negative exposure assessments.

Short duration monitoring: Several chemical parameters have established exposure limits based on 15 or 30-minute exposures. This will require that samples for some parameters be collected during activities that have the greatest potential for exposure during a given work shift. In addition to 15 and 30-minute duration, some chemical parameters have established ceiling limits. Grab samples may be required to be collected to document compliance with ceiling exposure limits.

Whole shift monitoring: This typically is based on an 8 hour work shift, since OSHA exposure limits often are based on an 8 hour time-weighted average. The subject work operation involves shifts of 12 hour shifts rather than 8 hours, and will require that exposure samples be collected over a 12 hour period. The interpretation of the data will require that OSHA exposure limits be amended to account for the longer work shift. Additionally, the exposure limits will have to take into account a 7-day workweek, rather than the standard 5-day workweek. Adjustments to exposure limits will be made on a case-by-case basis.

Frequency: Due to the number of variables involved with assessing worker exposures specific to this project and the number of debris collection operation and TDSR site workers, the establishment of

comprehensive exposure data for a statistically significant percentage (25%) of the work force will be difficult, and can not feasibly be achieved in a single shift. Initially, exposure monitoring efforts will be concentrated on activities most likely to result in elevated exposures. These classifications include those work groups within the Exclusion Zone where employees spend the majority of their work shift handling debris, or otherwise working in close proximity to debris being handled.

4.7.2 Information Management and Dissemination

Air sample data, both perimeter and personnel exposure monitoring, will be summarized and disseminated accordingly. Data may be entered into a data base, which will be updated daily. The date will be posted in a summary fashion near the mess area, and will be available upon request by any entity with workers on the project. Written interpretations will be posted weekly. These interpretations will include a summary of data, trends in exposures, and recommendations to control, or otherwise manage exposures.

4.7.3 Debris Collection and TDSR Site Safety Monitoring

General debris collection operation and TDSR site safety will be monitored through a team of Safety Observers. These individuals will be observing various operations in and around the exclusion zone including, but not necessarily limited to the following:

- Hand sorting.
- Mechanical sorting.
- Material transfer operations.
- Torch cutting.
- Mechanical cutting.
- Trucking.
- Building erection.

The debris collection operation and TDSR site Safety monitors are not intended to provide enforcement of debris collection operation and TDSR site safety requirements, but to facilitate a safer working environment. Their objectives on this project include:

- Assisting debris collection operation and TDSR site workers with Personal Protective Equipment.
- Providing assistance on the implementation of the Health and Safety Plan.
- Assessing potential safety hazards.
- Being available to debris collection operation and TDSR site workers to present and discuss safe work practices.
- Recording potentially unsafe work condition and reporting the conditions to the appropriate supervisors.

Each debris collection operation and TDSR site Safety Observer will utilize a summary checklist to prompt them to make observations of potentially un-safe work practices or conditions. The prompt items include:

Personal Protective Equipment:

- Respirators being worn properly.
- Hard hat being worn properly
- Hearing protection being worn where required.
- Eyes.
- Protective clothing.
- Gloves/hand protection.
- Boots, foot protection.

Work Practices:

- Worker positioning around equipment.
- Standing on operating equipment.

- Eating, drinking in exclusion zone.
- Use of hand tools.
- Storage of hand tools when not in use.

Material Handling and Storage:

- Workers in proximity to unstable piles.
- Workers in proximity to transfer/dumping of material.
- Potentially dangerous debris in waste stream (gas tanks, compressed gas).

Vehicle Safety:

- Backup alarms on vehicles.
- Dragging rebar/debris.
- Fire extinguishers on equipment.
- Unsafe mounting/riding on vehicles.
- Headlights/Taillights
- Cracked windshields
- Fenders/mud flaps
- Excessive speed.
- Unattended vehicles with motor running.
- Use of spotters for backing up.

ATV Safety:

- Exceeding payload.
- Gloves/helmet.
- Not used during nighttime operations.
- No passengers.
- Equipped with warning signal device.

Illumination:

- Conveyors 110lx.
- Parking 3 Ix.
- Fueling areas 5 Ix.
- Docks/loading areas 3 Ix.
- Inspection areas 50 Ix.
- General outdoors 3 Ix.
- Dressing area 10 Ix.

Lockout/Tagout:

- Use of L/T devices.
- Use of proper L/T devices.
- Observation of unsafe acts during L/T/ operations.

For Building Construction:

- Fall Protection.
- Proper use of scaffolds and ladder.
- Proper use of power tools.
- Lifts being used in a safe manner.

For Operations That Use Torch Cutting:

- No open flames near flammable material or compressed gasses.
- No cutting of containers.

- Skin and special eye protection.
- Fire extinguishers.
- Torch cutting being performed on stable, secure platforms.
- Prior to use, hoses and tips are inspected.
- Valves shut off when work is suspended.

Written data collected by the debris collection operation and TDSR site Safety Observers will be summarized, and will be distributed to the respective agencies at the daily debris collection operation and TDSR site safety meetings.

4.7.4 Monitoring Activities by Agencies

The following is a summary of monitoring activities by various agencies:

USEPA

- **Perimeter monitoring:** Airborne asbestos at 8 fixed locations, analysis by phase contrast microscopy and Transmission Electron microscopy (AHERA Method). Particulate monitoring at eight fixed locations by use of Data Ram direct reading instruments.
- **Exclusion Zone Monitoring:** Airborne asbestos at 4 fixed locations, analysis by phase contrast microscopy and Transmission Electron microscopy (AHERA Method).
- **Personal Hygiene Station:** Airborne asbestos at 2 fixed locations, analysis by phase contrast microscopy and Transmission Electron microscopy (AHERA Method).
- **Bulk Sample Collection**: Collection of asbestos bulk samples at various locations at the debris collection and TDSR sites. Frequency is 30 samples per week. Analysis by Polarized Light Microscopy.
- **Direct Reading/Other:** Measurements for explosive atmosphere, oxygen, hydrogen sulfide, and carbon monoxide every hour in the supply tent, personal hygiene station, mess area, and the covered sifting area. Other building will be evaluated on a case-by-case basis.

CONTRACTOR

- **Exclusion Zone:** Personal exposure monitoring for airborne asbestos on contractor's workers. Analysis by Phase Contrast Microscopy, with 20% (approximately) of samples being analyzed by Transmission Electron Microscopy (NIOSH 7402).

  Personal exposure monitoring for airborne metals and total participate on contractor's workers. Analysis by NIOSH method 7300/0500 (gravemetric). Noise monitoring on contractor's workers near heavy equipment. Direct read monitoring for organic vapors. Luminescence surveys.
- **Safety Inspections:** Conducting safety observation inspections in work areas. Findings to be reported to agencies at daily debris collection operation and TDSR site meetings. Conducting safety inspections of prime contractor's subcontractors. Responsible for enforcing subcontractor's compliance to H&S Plan.

SECTION 5.0 - RESPIRATORY PROTECTION PROGRAM

5.1 PURPOSE

Since certain tasks associated with the operation of the landfill for this project may require the use of respiratory protection, this section was developed to provide general guidance associated with the use of respirators. Whenever possible, work practices and engineering controls will be used to manage personnel exposure to airborne hazards. Where effective work practices and engineering controls are

not possible, respiratory protection will be used in accordance to the generalized procedures described in this section. For additional information refer to 29 Code of Federal Regulations (CFR) 1910.134.

5.2 APPLICIBILITY AND RESPONSIBILITY

This plan applies to personnel who may use respiratory protection on a routine or occasional basis. This includes the use of disposable and reusable air purifying respirators. Each agency and/or contractor is responsible for safety and well being of employees as it relates to respiratory protection. Agencies and contractors shall be required to demonstrate compliance with a written respiratory protection program that complies with OSHA. Agencies and contractors are responsible for identifying tasks and personnel that may use respirators and conducting self-compliance monitoring.

5.3 TRAINING

Agencies and contractors are ultimately responsible for the training of their employees. General respiratory training and fit testing for will be available on site by EE&G. Training will generally include the following:

- Physical and medical requirements for respiratory use.
- Methods for inspecting, fitting, and using respirators.
- Methods for fit checking.
- Respirator maintenance.
- Limited medical evaluation.

5.4 RESPIRATORY SELECTION

Based on current debris collection operation and TDSR site conditions, initial assessments indicate that half-face negative pressure respirators equipped with High Efficiency Particulate Air (HEPA/OV) filters will be sufficient to provide suitable respiratory protection in the exclusion zone. As conditions change, work areas and job tasks will be assessed to evaluate respiratory protection.

5.5 MEDICAL SURVEILLANCE

Prior to wearing respirators, agencies and contractors will be required to verify that their personnel are physically able to wear a respirator. Limited medical evaluations will be offered in the PPE structure during normal morning and evening shift changes, unless otherwise schedule in advance.

5.6 RESPIRATOR FIT TESTING

Fit testing for employees required to wear respirators will be conducted. A temporary fit testing facility will be established at the debris collection and TDSR sites.

5.7 RESPIRATOR INSPECTION AND MAINTENANCE

Personnel will be individually responsible for proper maintenance, inspection, cleaning, and storage of respirators. Agencies and contractors are responsible for monitoring this program.

SECTION 6.0 - COMMUNICATION & ACCIDENT PREVENTION

6.1 DEBRIS COLLECTION OPERATION AND TDSR SITE COMMUNICATION

6.1.1 Key Personnel

Table 14 identifies Health and Safety personnel critical to planned activities at the various debris collection and TDSR sites covered by this plan. The organizational structure will be reviewed and updated periodically.

HEALTH AND SAFETY PERSONNEL

Title	Name/Phone	Function
Health and Safety Personnel		Provide technical S&H oversight for employees and safety QA for agencies and contractor. Has authority to stop contract work that represents an
Safety & Loss Control Manager		Primary point of contact for all health & safety issues and primary liaison between debris collection operation and TDSR site operations and USACE, and Law enforcement contacts.
Debris Collection Operation and TDSR Site Safety and Health Officers		Overall coordination and management of debris collection operation and TDSR site health & safety and environmental technicians. Responsible for all submittals and written correspondence to Safety & Loss Control Mgr.
Certified Industrial Hygienist		Initial debris collection operation and TDSR site hazard identification and off-site review of technical submittals. Responsible for the technical direction of Health & Safety program.
Health and Safety Officer		Responsible for communicating and overseeing own employees with respect to this Health and Safety Guidance Manual.
Senior Environmental Manager		Contact for landfill disposal, landfill gas issues, and other landfill related issues.

Table 14 – Health and Safety Personnel

The contact numbers are provided above so that health and safety related issues can be effectively communicated to each entity at the debris collection operation and TDSR sites.

6.2 COORDINATING AND CONTROLLING WORK ACTIVITIES

The Project Directors for the contractor will be responsible for the overall direction and management of the construction employees and subcontractors. Each entity with workers present on the debris collection operation and TDSR sites for any activity will be solely responsible for the health and safety of their own employees, including the implementation and oversight of this plan, and their own safety plan.

6.2.1 Visitors and Unknown Debris Collection Operation and TDSR Site Representatives

All visitors will be required to obtain the appropriate vehicle passes and badges from the contractor.

New debris collection operation and TDSR site employees should attend an introductory meeting to be made aware of debris collection and TDSR site conditions. The contractor will be conducting orientation meetings, as well as each entity may be conducting their own debris collection operation and TDSR site safety orientation meetings. In these situations, the debris collection operation and TDSR site indoctrinations provided by the

individual agencies will supersede the guidance of this section. The debris collection operation and TDSR site orientation sessions should include the following minimum elements:

- Introduction to the debris collection operation and TDSR site Health and Safety Plans.
- Access to the debris collection operation and TDSR sites and clearance requirements.
- Security areas and concerns.
- Information flow and organizational chain-of-command.
- Training for specific job function/responsibilities.
- Training for hazard recognition/accident awareness and prevention.
- Safety and environmental controls in place.
- Existing or potential hazards.
- Universal precautions.
- Hazcom/lockout-tagout.
- Documentation of training.
- Heavy equipment and safety inspections.

In addition to the introductory debris collection operation and TDSR site orientations, each entity is encouraged to conduct at least weekly "tool box safety meetings" with its employees.

6.3 REPORTING PROCEDURES

6.3.1 Investigation and Reporting of Accidents

Each entity will conduct its own accident investigations. Information pertaining to accident reporting and investigations should be made be available to the employees of each entity. Immediate notification will be made to the agency's safety officer when an injury or illness results in a fatality, permanent total or permanent partial disability, hospitalization of any employees, or an accident in which property is significantly damaged.

6.3.2 Exposure Reporting

The contractor will prepare and provide to all entities at the 11:00 am safety meetings periodic reports that summarize the findings of air sample and exposure monitoring data. Other agencies and entities are encouraged to provide any data they are collecting to the others. Results of air sampling data will be available to debris collection and TDSR site personnel, upon request.

6.3.3 Maintenance of Data Logs

Records of exposure data, accident reports and field logs will be maintained for the duration of the project by each entity.

6.4 EMERGENCY RESPONSE

6.4.1 Emergency Medical Care

In the event of a medical emergency, contact the following:

Agency/Facility	**Phone#**
Police:	Agency provided services.
Fire:	911
Hospital:	Agency provided medical services.

6.5 RECORD OF DEBRIS COLLECTION OPERATION/TDSR SITE SAFETY AND HEALTH PLAN REVIEW

Employer Name:
Employer Address:
Employer Supervisor (Print):

The undersigned have attended the debris collection operation and/or TDSR site orientations, received, reviewed and understand elements presented in this plan.

Name (print)	Signature
Name (print)	Signature
Name (print)	Signature

EXHIBIT AA

I-66 TRANSFER STATION OPERATIONS SAFETY PLAN

I-66 Operations Manual - Safety Plan

Introduction

Health and safety in the workplace is each workers responsibility. Each worker at the Transfer Station should:

- Know the potential dangers associated with tipping floor operations.
- Know and obey the basic safety requirements for this facility.
- Know when a hazardous situation exists and how to protect one self and others.
- Know how to use safety and emergency equipment.
- Know how to mitigate a hazardous situation.
- Know what emergency procedures to follow in the event of an accident.

This will be accomplished through monthly safety meetings and employee evaluations, which discuss safety. In addition, the County recognizes employees in an annual safety recognition program.

This safety plan is designed to provide and reinforce worker knowledge of health and safety issues at the site. It includes basic safety procedures, safety inspections, worker training, safety equipment, and operational safety requirements.

Basic Safety Procedures

General safety procedures to be used at the Transfer Station include:

- Personnel will be teamed such that at least two people are present during any shift when work is being done.
- At least one person on duty at all times should be trained in the use of necessary safety equipment and communications equipment at the Transfer Station.
- Requirements that staff who observe a safety violation must immediately report it to the facility's Safety Supervisor, or Complex Manager and/or take whatever actions are necessary to safely mitigate the hazard.
- Monthly safety meetings providing the results of safety observations and inspections, review dangers identified, and answer safety-related questions from employees.
- Posting of a bulletin board to display safety reminders, emergency information, and educational safety materials.
- Prohibition against eating, drinking and smoking while working in the tipping area.
- Requirements for hand washing prior to work breaks.

- Strict conformance with speed limits, seat belt, backup alarm, and visible clothing requirements in areas where heavy equipment or haulage vehicles are operating.
- Periodic reviews of the safety procedure to assess their effectiveness. Make appropriate amendments to remedy any unsafe practices.

Safety Inspections

Periodic safety inspections will be conducted by the Division of Solid Waste Safety Personnel to observe working conditions, safety procedures, and safety equipment functions. There will be three types of periodic safety inspections:

- General observation of the working conditions, and safety as part of the site supervisor's daily operations inspection.
- Weekly walk around safety inspection of working conditions, safety procedures and safety equipment.
- Special safety and emergency equipment inventory and inspection.

Observations will be recorded in the inspection memorandum and safety violations will be corrected on the spot, if possible. Equipment with faulty safety equipment will be repaired immediately.

Additional safety inspections and audits may be periodically made by other safety personnel or regulatory personnel. During these outside inspections, the Safety Personnel for the Division of Solid Waste Disposal and Resource Recovery (DSWDRR) and other site personnel will make safety records or other information available to the outside personnel.

The transfer station shall operate through applicable OSHA and VOSH regulations.

Training

Developing workplace safety procedures is a positive investment, from the standpoint of loss prevention, employee morale, and employee productivity. A safety program that includes proper employee training is an important component of assuring accident-free operation of the I-66 Transfer Station. Accidents are preventable when they result from errors in judgment, working without proper protection in dangerous areas, and/or practicing unsafe operating procedures.

Fairfax County initiated the first step in establishing a Safety Engineer for the DSWDRR in 1988. An in-house employee-training program has also been designed to educate employees about the dangers associated with transfer station operations and the methods of decreasing and/or eliminating these dangers. This program also educates employees about the existence and location of safety equipment, personal protective gear, emergency directories, and the response procedures to follow in the event of an emergency.

The in-house training program contains the following:

- Training employees in the safety procedures applicable to their activities.
- Training employees in the use and location of safety equipment at the site.
- Training employees in emergency response and contingency plan procedure.
- Training and certifying employees in the operation of equipment, allowing only qualified employees to operate equipment.
- Instructions in handling chemicals and the procedures to be followed in case of accidental contact with waste.
- Annual refresher training courses to introduce new equipment and reacquaint employees with standard safety procedures.
- Monthly safety meetings and a safety bulletin board to reinforce worker awareness of safety on a continuous basis and to keep personnel up to date on the most current safety information.

Safety Equipment

Transfer Station personnel work in all types of weather; with a variety of materials, and many different types of heavy equipment, this creates many diverse hazards. For this reason, safety equipment must be used and maintained in a sanitary and reliable condition.

First-aid kit conforming to American National Standard Institute (ANSI) standards and meeting all the requirements set forth by Fairfax County's Risk Management Division are available in the Transfer Station Complex Manager's office and the employee's office trailer. Transfer Station personnel maintain the first-aid kits in a serviceable condition.

In addition, a copy of the emergency directory is available in the hallway, near the Permit Office. Safety showers and eyewashes are also accessible to I-66 Transfer Station employees at the facility site.

Most important, all employees should be made familiar with the operation and location of emergency equipment during regularly scheduled safety meetings and training.

Operations Safety

Transfer Station personnel who direct the hauling vehicles will do so either in person or via two-way radio. The traffic director notifies the weighmaster of an appropriate disposal bay on the tipping floor and the weighmaster relays the bay number to the driver of the hauling vehicle. At no time shall the weighmaster release a hauling vehicle to a disposal bay without authorization from the traffic director. The traffic director will perform his/her duties within the limits of the established safe zone.

All waste moving equipment at the Transfer Station is equipped with an audible backup alarm. Additionally, the County inspects all vehicles, which haul waste into the transfer

station once a year. During these inspections, the weighmasters at the facility check the vehicle condition and distribute rules and regulations to the drivers. Appropriate signs are placed around stationary equipment, electrical rooms, and other locations that require WARNING or DANGER observance.

Safety precautions should be exercised while operating or working in the vicinity of heavy equipment, and employees should give full attention to their surroundings.

Employees should ask questions, and are encouraged to establish an open dialogue with peers and supervisory personnel. Specific questions or suggestions for modifying this document should be sent to the Complex Manager or Director.

EXHIBIT AB

ON-SITE CONTRACT MONITORING

CONTRACT MANAGEMENT

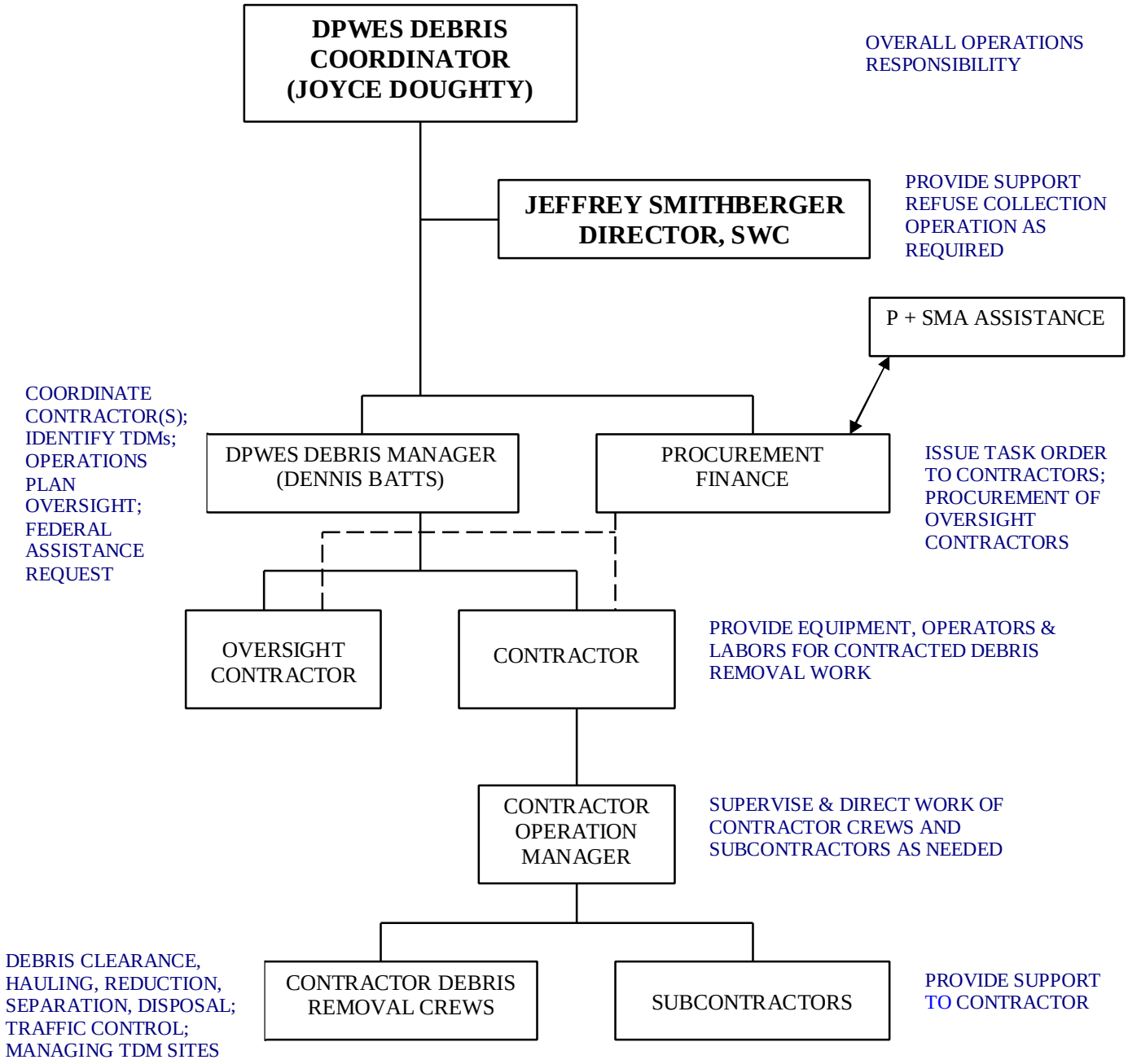

EXHIBIT AC

DIVISION OF MOTOR VEHICLE SERVICE (DVS) SITES

Division of Vehicle Services (DVS) Sites	
DVS MAIN ALBAN SHOP	7245 Fullerton Rd
DVS MAIN JERMANTOWN SHOP	3609 Jermantown Rd
DVS MAIN NEWINGTON SHOP	6900 Newington Rd
DVS MAIN WEST OX SHOP	4620 West Ox Rd

EXHIBIT AD

VIRGINIA DEPARTMENT OF TRANSPORTATION
ROADWAY CLEARANCE PRIORITIES

District	County	Route	From	To	Total Miles	Classification
NoVA	Fairfax	600	123	1014	11.32	Urban Minor Arterial/Minor Collector
NoVA	Fairfax	602	608	603	8.87	Urban Minor Arterial/Minor Collector
NoVA	Fairfax	603	602	193	6.99	Urban Collector
NoVA	Fairfax	604	Loudoun CL	228	0.25	Urban Collector
NoVA	Fairfax	605	665	925	0.62	Urban Collector
NoVA	Fairfax	606	Herndon ECL	7	2.93	Urban Minor Arterial
NoVA	Fairfax	608	29	Dulles International	8.91	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	609	29	6265	5.34	Urban Minor Collector
NoVA	Fairfax	610	643	123	2.95	Urban Collector
NoVA	Fairfax	611	123	241	17.09	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	612	Pr. William CL	620	9.21	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	613	617	Arlington CL	13.04	Urban Minor Arterial/Urban Other Principal Arterial
NoVA	Fairfax	616	Pr. William CL	658	0.97	Urban Minor Arterial
NoVA	Fairfax	617	1	244	9.53	Urban Minor Arterial/Urban Other Principal Arterial
NoVA	Fairfax	618	Gorgas Road	613	1.06	Urban Minor Arterial
NoVA	Fairfax	619	1	622	0.48	Urban Collector
NoVA	Fairfax	620	Loudoun CL	244	22.77	Urban Minor Arterial
NoVA	Fairfax	621	Loudoun CL	658	4.81	Urban Collector
NoVA	Fairfax	622	619	3191	1.39	Urban Collector
NoVA	Fairfax	623	624	235	4.56	Urban Collector
NoVA	Fairfax	624	1	235	1.32	Urban Collector
NoVA	Fairfax	626	1	629	1.75	Urban Minor Arterial
NoVA	Fairfax	627	629	628	1.31	Urban Collector
NoVA	Fairfax	628	626	90005	1.90	Urban Collector
NoVA	Fairfax	629	90005	1	5.85	Urban Minor Arterial
NoVA	Fairfax	630	629	1	1.69	Urban Collector
NoVA	Fairfax	632	629	90005	0.47	Urban Collector
NoVA	Fairfax	633	611	241	2.55	Urban Minor Arterial
NoVA	Fairfax	634	611	611	1.25	Urban Collector
NoVA	Fairfax	635	611	634	1.84	Urban Collector
NoVA	Fairfax	636	123	638	5.24	Urban Minor Arterial/Urban Other Principal Arterial
NoVA	Fairfax	637	741	877	0.52	Urban Collector
NoVA	Fairfax	638	1	620	8.18	Urban Minor Arterial
NoVA	Fairfax	640	644	641	3.47	Urban Minor Arterial
NoVA	Fairfax	641	Clifton ECL	638	12.04	Urban Minor Arterial/Urban Other Principal Arterial
NoVA	Fairfax	642	123	1	3.15	Urban Minor Arterial
NoVA	Fairfax	643	612	Fairfax County Pkwy	12.97	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	644	641	611	11.82	Urban Minor Arterial
NoVA	Fairfax	645	657	620	19.71	Urban Minor Arterial/Urban Collector

District	County	Route	From	To	Total Miles	Classification
NoVA	Fairfax	647	643	123	4.62	Urban Collector
NoVA	Fairfax	648	617	Alexandria WCL	2.55	Urban Minor Arterial
NoVA	Fairfax	649	236	Falls Church SCL	4.21	Urban Minor Arterial
NoVA	Fairfax	650	236	694	8.16	Urban Minor Arterial
NoVA	Fairfax	651	653	236	4.49	Urban Minor Arterial
NoVA	Fairfax	652	638	Fairfax SCL	5.25	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	653	651	Fairfax SCL	2.76	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	654	645	651	6.85	Urban Collector
NoVA	Fairfax	655	620	29	4.72	Urban Minor Arterial
NoVA	Fairfax	657	4831	228	7.04	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	658	621	645	6.71	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	659	658	620	2.10	Urban Collector
NoVA	Fairfax	660	5590	951	3.35	Urban Collector
NoVA	Fairfax	661	620	8460	0.96	Urban Collector
NoVA	Fairfax	662	29	28	2.77	Urban Minor Arterial
NoVA	Fairfax	663	5678	123	1.46	Urban Collector
NoVA	Fairfax	664	608	655	3.17	Urban Collector
NoVA	Fairfax	665	657	29	8.80	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	666	608	Herndon SCL	1.88	Urban Collector
NoVA	Fairfax	668	Dulles Airport	608	0.72	Urban Minor Arterial
NoVA	Fairfax	669	645	671	6.82	Urban Collector
NoVA	Fairfax	671	672	673	2.61	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	672	664	7459	5.95	Urban Minor Arterial
NoVA	Fairfax	673	Dead End	123	7.15	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	674	Dead End	603	11.03	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	675	Ramp to 7100	698	8.49	Urban Minor Arterial
NoVA	Fairfax	676	675	193	4.10	Urban Minor Arterial
NoVA	Fairfax	677	673	7078	5.78	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	679	Herndon NCL	Loudoun CL	0.75	Urban Collector
NoVA	Fairfax	681	743	603	4.04	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	683	193	676	2.32	Urban Collector
NoVA	Fairfax	684	7	193	2.79	Urban Minor Arterial
NoVA	Fairfax	685	694	193	1.51	Urban Minor Arterial
NoVA	Fairfax	686	694	268	1.67	Urban Collector
NoVA	Fairfax	687	686	3547	1.32	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	689	309	Arlington CL	1.54	Urban Collector
NoVA	Fairfax	690	693	695	1.64	Urban Collector
NoVA	Fairfax	693	Arlington CL	3547	2.53	Urban Minor Arterial
NoVA	Fairfax	694	899	Falls Church NCL	6.42	Urban Minor Arterial

NoVA	Fairfax	695	698	123	7.05	Urban Minor Arterial
District	**County**	**Route**	**From**	**To**	**Total Miles**	**Classification**
NoVA	Fairfax	696	Vienna ECL	650	1.35	Urban Collector
NoVA	Fairfax	697	677	650	1.81	Urban Collector
NoVA	Fairfax	698	50	769	2.95	Urban Minor Arterial
NoVA	Fairfax	699	236	744	2.70	Urban Minor Arterial
NoVA	Fairfax	701	655	123	1.05	Urban Collector
NoVA	Fairfax	702	675	7	0.75	Urban Minor Arterial
NoVA	Fairfax	703	29	693	3.57	Urban Minor Arterial
NoVA	Fairfax	705	29	Falls Church WCL	0.80	Urban Minor Arterial
NoVA	Fairfax	708	649	613	0.55	Urban Collector
NoVA	Fairfax	709	846	650	0.41	Urban Collector
NoVA	Fairfax	710	620	236	1.85	Urban Minor Arterial
NoVA	Fairfax	711	650	244	0.90	Urban Minor Arterial
NoVA	Fairfax	712	620	Dead End	2.29	Urban Collector
NoVA	Fairfax	713	236	613	0.25	Urban Minor Arterial
NoVA	Fairfax	714	7	Arlington CL	0.68	Urban Minor Arterial
NoVA	Fairfax	716	Alexandria NCL	1845	0.43	Urban Minor Arterial
NoVA	Fairfax	717	7	603	3.00	Urban Collector
NoVA	Fairfax	719	703	1117	0.45	Urban Collector
NoVA	Fairfax	723	643	725	1.56	Urban Collector
NoVA	Fairfax	724	Vienna NCL	677	0.80	Urban Collector
NoVA	Fairfax	738	193	123	5.27	Urban Minor Arterial
NoVA	Fairfax	741	637	611	0.18	Urban Collector
NoVA	Fairfax	743	7	7	0.99	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	744	698	29	0.80	Urban Collector
NoVA	Fairfax	748	1	642	0.20	Urban Collector
NoVA	Fairfax	757	2864	617	0.20	Urban Minor Arterial
NoVA	Fairfax	758	650	244	0.15	Urban Minor Arterial
NoVA	Fairfax	760	694	738	1.91	Urban Collector
NoVA	Fairfax	769	698	650	0.10	Urban Minor Arterial
NoVA	Fairfax	779	1	1	0.93	Urban Collector
NoVA	Fairfax	782	644	1540	0.39	Urban Collector
NoVA	Fairfax	787	620	236	1.80	Urban Collector
NoVA	Fairfax	789	877	644	4.10	Urban Minor Arterial
NoVA	Fairfax	790	Havenbrook Way	617	1.80	Urban Minor Arterial
NoVA	Fairfax	796	236	244	0.39	Urban Collector
NoVA	Fairfax	828	5320	7917	3.29	Urban Minor Arterial
NoVA	Fairfax	836	1	235	1.30	Urban Collector
NoVA	Fairfax	846	699	709	1.30	Urban Collector

NoVA	Fairfax	850	629	Dead End	0.50	Urban Collector
District	**County**	**Route**	**From**	**To**	**Total Miles**	**Classification**
NoVA	Fairfax	874	3412	979	0.47	Urban Collector
NoVA	Fairfax	877	617	617	1.00	Urban Collector
NoVA	Fairfax	887	997	1148	0.06	Urban Collector
NoVA	Fairfax	898	28	29	0.45	Urban Collector
NoVA	Fairfax	902	244	1886	0.41	Urban Collector
NoVA	Fairfax	925	605	657	1.05	Urban Collector
NoVA	Fairfax	937	193	1813	0.33	Urban Collector
NoVA	Fairfax	939	677	7	0.51	Urban Minor Arterial
NoVA	Fairfax	950	677	5064	0.34	Urban Minor Arterial
NoVA	Fairfax	979	874	50	0.92	Urban Collector
NoVA	Fairfax	981	902	1078	0.41	Urban Collector
NoVA	Fairfax	988	2468	613	0.45	Urban Collector
NoVA	Fairfax	997	644	887	0.45	Urban Collector
NoVA	Fairfax	1026	1869	244	0.56	Urban Collector
NoVA	Fairfax	1031	644	638	1.34	Urban Collector
NoVA	Fairfax	1078	7	981	0.14	Urban Collector
NoVA	Fairfax	1117	695	719	0.20	Urban Collector
NoVA	Fairfax	1132	1134	644	0.37	Urban Collector
NoVA	Fairfax	1134	1135	617	0.60	Urban Collector
NoVA	Fairfax	1135	1134	636	0.56	Urban Collector
NoVA	Fairfax	1148	887	996	0.22	Urban Collector
NoVA	Fairfax	1155	1193	617	0.54	Urban Collector
NoVA	Fairfax	1157	1193	617	0.41	Urban Collector
NoVA	Fairfax	1158	617	617	1.28	Urban Minor Arterial
NoVA	Fairfax	1169	235	623	0.09	Urban Collector
NoVA	Fairfax	1193	644	1155	1.14	Urban Collector
NoVA	Fairfax	1292	320	648	1.18	Urban Collector
NoVA	Fairfax	1332	241	1	1.08	Urban Minor Arterial
NoVA	Fairfax	1373	644	1540	0.45	Urban Collector
NoVA	Fairfax	1401	633	744	0.66	Urban Collector
NoVA	Fairfax	1405	1	1473	0.70	Urban Collector
NoVA	Fairfax	1418	633	611	0.99	Urban Collector
NoVA	Fairfax	1450	4237	1474	0.49	Urban Collector
NoVA	Fairfax	1464	1674	1619	0.06	Urban Collector
NoVA	Fairfax	1473	1405	1474	0.05	Urban Collector
NoVA	Fairfax	1474	1450	1473	0.14	Urban Collector
NoVA	Fairfax	1510	930	1502	1.73	Urban Minor Arterial
NoVA	Fairfax	1540	1373	782	0.42	Urban Collector

NoVA	Fairfax	1604	241	1	0.28	Urban Minor Arterial
District	**County**	**Route**	**From**	**To**	**Total Miles**	**Classification**
NoVA	Fairfax	1616	611	241	0.39	Urban Collector
NoVA	Fairfax	1619	1148	1464	1.68	Urban Collector
NoVA	Fairfax	1635	611	644	1.03	Urban Collector
NoVA	Fairfax	1702	649	Falls Church SCL	0.86	Urban Collector
NoVA	Fairfax	1708	712	Falls Church SCL	0.45	Urban Collector
NoVA	Fairfax	1717	50	29	0.74	Urban Collector
NoVA	Fairfax	1720	2338	705	1.87	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	1731	613	1702	0.67	Urban Collector
NoVA	Fairfax	1735	613	2760	0.59	Urban Collector
NoVA	Fairfax	1774	1781	29	0.55	Urban Collector
NoVA	Fairfax	1781	765	1774	0.12	Urban Collector
NoVA	Fairfax	1799	Falls Church NCL	Arlington CL	0.15	Urban Minor Arterial
NoVA	Fairfax	1813	123	937	0.72	Urban Collector
NoVA	Fairfax	1845	716	Arlington CL	0.60	Urban Minor Arterial
NoVA	Fairfax	1869	1026	716	0.48	Urban Collector
NoVA	Fairfax	1886	2760	902	0.92	Urban Collector
NoVA	Fairfax	2016	626	2069	0.08	Urban Collector
NoVA	Fairfax	2069	2016	4237	0.68	Urban Collector
NoVA	Fairfax	2116	626	90005	0.47	Urban Collector
NoVA	Fairfax	2158	629	90005	0.85	Urban Collector
NoVA	Fairfax	2181	2677	3579	0.39	Urban Collector
NoVA	Fairfax	2211	244	2293	0.23	Urban Collector
NoVA	Fairfax	2246	648	236	1.76	Urban Collector
NoVA	Fairfax	2252	2951	2255	1.87	Urban Collector
NoVA	Fairfax	2255	2252	244	0.03	Urban Collector
NoVA	Fairfax	2273	2276	2276	0.05	Urban Collector
NoVA	Fairfax	2276	613	2760	1.68	Urban Collector
NoVA	Fairfax	2293	2295	2211	0.71	Urban Collector
NoVA	Fairfax	2295	650	2293	0.40	Urban Collector
NoVA	Fairfax	2324	2326	613	0.14	Urban Minor Arterial
NoVA	Fairfax	2326	2324	2327	0.03	Urban Minor Arterial
NoVA	Fairfax	2327	1886	2326	1.31	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	2338	1720	2468	0.85	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	2401	698	650	1.09	Urban Collector
NoVA	Fairfax	2430	787	710	2.34	Urban Collector
NoVA	Fairfax	2435	123	672	0.62	Urban Collector
NoVA	Fairfax	2459	2652	617	1.27	Urban Collector
NoVA	Fairfax	2468	998	2338	0.25	Urban Collector

NoVA	Fairfax	2503	7	Arlington CL	0.41	Urban Collector
District	**County**	**Route**	**From**	**To**	**Total Miles**	**Classification**
NoVA	Fairfax	2520	665	665	0.35	Urban Collector
NoVA	Fairfax	2532	713	Alexandria WCL	0.30	Urban Minor Arterial
NoVA	Fairfax	2630	2864	236	1.44	Urban Collector
NoVA	Fairfax	2652	3247	Dead End	0.98	Urban Collector
NoVA	Fairfax	2672	694	693	0.44	Urban Collector
NoVA	Fairfax	2677	Dead End	2181	1.26	Urban Collector
NoVA	Fairfax	2700	695	2707	0.09	Urban Collector
NoVA	Fairfax	2701	2707	650	0.85	Urban Collector
NoVA	Fairfax	2707	2700	650	2.11	Urban Collector
NoVA	Fairfax	2722	2707	2707	0.03	Urban Collector
NoVA	Fairfax	2723	617	2735	0.68	Urban Collector
NoVA	Fairfax	2724	7	650	0.02	Urban Minor Arterial
NoVA	Fairfax	2735	2723	648	1.07	Urban Collector
NoVA	Fairfax	2760	2276	1735	0.34	Urban Collector
NoVA	Fairfax	2807	695	309	0.73	Urban Collector
NoVA	Fairfax	2833	Arlington CL	3977	0.29	Urban Collector
NoVA	Fairfax	2864	620	236	1.51	Urban Minor Arterial
NoVA	Fairfax	2948	617	244	0.53	Urban Minor Arterial
NoVA	Fairfax	3111	748	3376	0.53	Urban Collector
NoVA	Fairfax	3191	1	3376	0.75	Urban Collector
NoVA	Fairfax	3247	620	2652	1.48	Urban Collector
NoVA	Fairfax	3260	703	705	0.75	Urban Collector
NoVA	Fairfax	3285	693	694	0.44	Urban Collector
NoVA	Fairfax	3332	638	4131	2.52	Urban Collector
NoVA	Fairfax	3376	3191	3111	0.59	Urban Collector
NoVA	Fairfax	3412	236	874	1.05	Urban Collector
NoVA	Fairfax	3449	716	Arlington CL	0.65	Urban Minor Arterial
NoVA	Fairfax	3547	123	123	2.25	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	3563	123	193	0.48	Urban Collector
NoVA	Fairfax	3579	644	2181	0.64	Urban Collector
NoVA	Fairfax	3647	645	620	2.26	Urban Collector
NoVA	Fairfax	3679	236	650	1.52	Urban Collector
NoVA	Fairfax	3861	668	3865	0.18	Urban Collector
NoVA	Fairfax	3865	Dead End	3861	0.59	Urban Collector
NoVA	Fairfax	3891	123	672	1.37	Urban Collector
NoVA	Fairfax	3946	650	3547	0.44	Urban Minor Arterial
NoVA	Fairfax	3977	2833	695	0.56	Urban Collector
NoVA	Fairfax	4001	712	Dead End	0.47	Urban Collector

NoVA	Fairfax	4054	Dead End	650	0.43	Urban Collector
District	**County**	**Route**	**From**	**To**	**Total Miles**	**Classification**
NoVA	Fairfax	4131	644	3332	0.93	Urban Collector
NoVA	Fairfax	4183	638	4131	0.77	Urban Collector
NoVA	Fairfax	4237	1450	2069	0.05	Urban Collector
NoVA	Fairfax	4470	1264	655	0.16	Urban Minor Arterial
NoVA	Fairfax	4521	641	644	1.92	Urban Collector
NoVA	Fairfax	4540	714	Arlington CL	0.21	Urban Collector
NoVA	Fairfax	4646	4831	50	1.12	Urban Collector
NoVA	Fairfax	4701	602	5320	1.68	Urban Collector
NoVA	Fairfax	4703	665	4701	1.18	Urban Collector
NoVA	Fairfax	4720	673	5320	1.91	Urban Collector
NoVA	Fairfax	4721	5320	5301	3.93	Urban Collector
NoVA	Fairfax	4725	4726	606	0.06	Urban Collector
NoVA	Fairfax	4726	828	4725	2.12	Urban Collector
NoVA	Fairfax	4801	653	651	1.87	Urban Collector
NoVA	Fairfax	4831	Dead End	4840	2.77	Urban Collector
NoVA	Fairfax	4840	4831	853	0.43	Urban Collector
NoVA	Fairfax	4851	4978	50	1.01	Urban Collector
NoVA	Fairfax	4903	600	1	0.09	Urban Collector
NoVA	Fairfax	4978	645	4851	0.78	Urban Collector
NoVA	Fairfax	5020	676	7	0.57	Urban Collector
NoVA	Fairfax	5061	7	7649	1.37	Urban Minor Arterial/Urban Collector
NoVA	Fairfax	5062	684	5061	1.32	Urban Collector
NoVA	Fairfax	5064	950	772	0.17	Urban Minor Arterial
NoVA	Fairfax	5074	Dead End	697	0.18	Urban Collector
NoVA	Fairfax	5101	5102	645	0.56	Urban Collector
NoVA	Fairfax	5102	5101	651	0.34	Urban Collector
NoVA	Fairfax	5176	123	Dead End	0.53	Urban Minor Arterial
NoVA	Fairfax	5236	645	644	1.16	Urban Collector
NoVA	Fairfax	5301	673	5329	0.88	Urban Collector
NoVA	Fairfax	5320	665	674	5.88	Urban Minor Arterial
NoVA	Fairfax	5329	5338	5320	2.76	Urban Collector
NoVA	Fairfax	5338	4721	5329	0.17	Urban Collector
NoVA	Fairfax	5498	7137	620	1.53	Urban Minor Arterial
NoVA	Fairfax	5590	Clifton NCL	660	0.61	Urban Collector
NoVA	Fairfax	5640	608	665	1.11	Urban Collector
NoVA	Fairfax	5678	664	663	1.31	Urban Collector
NoVA	Fairfax	5847	643	645	1.40	Urban Collector
NoVA	Fairfax	6034	773	684	0.97	Urban Minor Arterial

NoVA	Fairfax	6066	699	650	0.84	Urban Minor Arterial
District	**County**	**Route**	**From**	**To**	**Total Miles**	**Classification**
NoVA	Fairfax	6070	Dead End	641	0.72	Urban Collector
NoVA	Fairfax	6154	701	243	0.79	Urban Collector
NoVA	Fairfax	6197	641	651	1.22	Urban Minor Arterial
NoVA	Fairfax	6215	28	657	0.73	Urban Collector
NoVA	Fairfax	6220	7	1582	0.86	Urban Minor Arterial
NoVA	Fairfax	6363	602	4726	0.20	Urban Collector
NoVA	Fairfax	6390	606	602	0.93	Urban Collector
NoVA	Fairfax	6615	6622	638	0.32	Urban Collector
NoVA	Fairfax	6751	Dead End	7960	0.93	Urban Collector
NoVA	Fairfax	6755	28	657	0.64	Urban Minor Arterial
NoVA	Fairfax	6819	657	608	2.41	Urban Collector
NoVA	Fairfax	6928	Dead End	29	0.80	Urban Collector
NoVA	Fairfax	6945	Dead End	644	0.92	Urban Collector
NoVA	Fairfax	7078	650	677	0.19	Urban Minor Arterial
NoVA	Fairfax	7100	I-66	267	8.06	Urban Other Principal Arterial
NoVA	Fairfax	7137	5498	651	0.27	Urban Minor Arterial
NoVA	Fairfax	7140	Dead End	669	1.14	Urban Collector
NoVA	Fairfax	7155	50	7100	0.97	Urban Minor Arterial
NoVA	Fairfax	7292	669	6189	0.43	Urban Collector
NoVA	Fairfax	7345	7346	620	0.38	Urban Collector
NoVA	Fairfax	7346	662	7345	0.66	Urban Collector
NoVA	Fairfax	7410	602	828	0.65	Urban Collector
NoVA	Fairfax	7412	680	6390	0.32	Urban Collector
NoVA	Fairfax	7414	Dead End	606	0.62	Urban Collector
NoVA	Fairfax	7488	Dead End	836	0.24	Urban Collector
NoVA	Fairfax	7644	600	642	0.34	Urban Minor Arterial
NoVA	Fairfax	7649	6034	5061	0.42	Urban Collector
NoVA	Fairfax	7700	645	608	2.13	Urban Collector
NoVA	Fairfax	7759	898	620	0.41	Urban Collector
NoVA	Fairfax	7783	28	659	1.29	Urban Minor Arterial
NoVA	Fairfax	7969	7100	6751	0.51	Urban Collector
NoVA	Fairfax	8285	Braddock Rd	29	0.50	Urban Collector
NoVA	Fairfax	8350	7706	28	0.69	Urban Collector
NoVA	Fairfax	8351	8352	29	0.82	Urban Collector
NoVA	Fairfax	8457	8460	28	0.97	Urban Collector
NoVA	Fairfax	8460	662	Dead End	1.50	Urban Collector
NoVA	Fairfax	8690	613	Manchester Blvd	2.24	Urban Collector
NoVA	Fairfax	7	Loudoun CL	Alexandria WCL	18.59	Urban Other Principal Arterial

NoVA	Fairfax	28	Prince William CL	Loudoun CL	11.24	Urban Other Principal Arterial
District	**County**	**Route**	**From**	**To**	**Total Miles**	**Classification**
NoVA	Fairfax	123	Prince William CL	Arlington CL	27.09	Urban Other Principal Arterial
NoVA	Fairfax	193	7	123	11.79	Urban Minor Collector
NoVA	Fairfax	228	Herndon NCL	7	2.01	Urban Minor Collector
NoVA	Fairfax	235	1	1	5.05	Urban Minor Collector
NoVA	Fairfax	236	29	Alexandria WCL	10.30	Urban Other Principal Arterial
NoVA	Fairfax	237	236	50	1.66	Urban Minor Collector
NoVA	Fairfax	241	1	Alexandria SCL	1.28	Urban Minor Collector
NoVA	Fairfax	242	1	600	3.58	Urban Minor Collector
NoVA	Fairfax	243	29	Vienna ECL	0.82	Urban Minor Collector
NoVA	Fairfax	244	236	Arlington CL	4.59	Urban Other Principal Arterial
NoVA	Fairfax	267	Dulles Access Rd	I-66	14.92	Urban Freeway
NoVA	Fairfax	309	123	Arlington CL	2.81	Urban Collector
NoVA	Fairfax	338	Falls Church ECL	7	0.06	Urban Minor Arterial
NoVA	Fairfax	383	687	6627	0.75	Urban Collector
NoVA	Fairfax	1	Prince William CL	Alexandria SCL	14.96	Urban Other Principal Arterial
NoVA	Fairfax	29	Prince William CL	1717	17.98	Urban Other Principal Arterial
NoVA	Fairfax	50	Loudoun CL	Arlington CL	19.36	Urban Other Principal Arterial
Total					789.49	

EXHIBIT AE

VIRGINIA DEPARTMENT OF TRANSPORTATION

ESTIMATED DEBRIS QUANTITIES

Category 1	74-95 MPH Winds
Category 2	96-110 MPH Winds
Category 3	111-130 MPH Winds
Category 4	131-155 MPH Winds
Category 5	155+ MPH Winds

Estimated Debris Quantities

1. Community Name or Debris Zone:	Fairfax County, VA
2. Population:	**1,010,000**

3. Persons / Household	**2.74**

				Category 1	Category 2	Category 3	Category 4	Category 5
			Single Family Homes Affected	368,613	368,613	368,613	368,613	368,613
			Storm Category Factor	2	8	26	50	80
4. Vegetative Cover Factor (V)	**1.3**		V	1.3	1.3	1.3	1.3	1.3
5. Commercial Density Factor (B)	**1.2**		B	1.2	1.2	1.2	1.2	1.2
6. Precipitation Factor (S)	**1.3**		S	1.3	1.3	1.3	1.3	1.3
Q= H(C)(V)(B)(S)			**Cubic Yds**	1,495,095	5,980,380	19,436,234	37,377,372	59,803,796
Temporary Debris Site Requirements								
1 Acre (in SY)		4840						
10 Feet stack height		3.3333						
Total volume per acre (CY)		16133						
Q=H(C)(V)(B)(S)			**Cubic Yds**	1,495,095	5,980,380	19,436,234	37,377,372	59,803,796
Acres Required for Debris			**Debris Acres**	93	371	1205	2317	3707
Road Buffers, etc. Adjustment Factor		1.66	**Total Site Acres**	154	615	2000	3846	6153
Debris Classification								
Clean woody debris		30.00%	**Cubic Yds**	448,528	1,794,114	5,830,870	11,213,212	17,941,139
Mixed C&D		70.00%	**Cubic Yds**	1,046,566	4,186,266	13,605,364	26,164,161	41,862,657
Mixed C&D Breakdown	**Burnable**	**42.00%**	**Cubic Yds**	439,558	1,758,232	5,714,253	10,988,947	17,582,316
	Soil	**5.00%**	**Cubic Yds**	52,328	209,313	680,268	1,308,208	2,093,133
	Metals	**15.00%**	**Cubic Yds**	156,985	627,940	2,040,805	3,924,624	6,279,399
	Landfilled	**38.00%**	**Cubic Yds**	397,695	1,590,781	5,170,038	9,942,381	15,907,810

Number Trucks required for cleanup in 3 Mo. & 6 Mo.

(18 CY / Truck x 10 Trips / Day x 12 weeks x 6 Days / Week)			**Trucks 3 Mo. Collection**	115	461	1500	2884	4614

(18 CY / Truck x 10 Trips / Day x 24 weeks x 6 Days / Week)	**Trucks 6 Mo. Collection**	58	231	750	1442	2307